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HIGH SCHOOL BUILDINGS

VOL. II

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High School Buildings

Compiled by

William C. Bruce

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FOREWORD

THE popularity of "High School Buildings, Volume I," which is now practically out of print, has encouraged the compiler to present this second collection of illustrations and sketch plans of American secondary schoolhouses.

Even in so short a period as six years, since the earlier book appeared, there have been large changes in American secondary education and these have been reflected accurately in the design and construction of buildings. The high school has entirely outgrown its academic limitations and traditions and has broadened its influence and its curriculum. Thus, the industrial arts and household arts are no longer "basement subjects;" the natural sciences are now taught in a way to require diversified laboratories; the physical care of students has been extended to necessitate very complete gymnasia and lunch rooms; and the movement for the "wider use" of the school plant by adults has become a fixed fact which school authorities have recognized thru better auditorium and night school facilities. The high school building of the present day is far more inclusive and complicated in the number and type of activities which it serves, and the structures illustrated in the following pages bear out this statement.

A departure has been made from the earlier book in the shape of text matter. This consists of articles which appeared originally in the School Board Journal and which aroused considerable attention as statements of fundamental principles in the field of high school architecture.

The hearty thanks of the compiler and publishers are hereby expressed to each of the architects and engineers represented in the book.

W. C. B.

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INDEX TO PAPERS

Pages
High School Planning, Dwight Heald Perkins 7
The High School Library, Irene Warren 27
Assembly Halls, James O. Betelle..... 37
Heating and Ventilation of School Buildings, D. D. Kimball............... 47

INDEX TO PLATES

Pages
Andover, Mass., High School.........188-190
Arcadia, Wis., High School...........286-287
Bay Ridge High School, New York, N. Y. 110-112
Belvidere, Ill., High School...........244-246
Bennington, Vt., High School.........278-281
Benson Polytechnic High School, Portland, Ore. 171-174
Binghamton, N. Y., High School......175-178
Bloomfield, N. J., High School........185-188
Boston, Mass., High School of Practical Arts 97- 99
Boys' High School, Louisville, Ky......160-165
Burley, Ida., High School............269-271
Butler, Pa., High School.............193-195
Caldwell, Kans., High School.........314-315
Camden, N. J., High School...........130-133
Central High School, Washington D. C.. 66- 70
Chicago, Ill., Carter Harrison Technical High School 78- 82
Chicago, Ill., Robert Lindblom High School 88- 92
Cleveland High School, Grover, St. Louis, Mo. 83- 87
Columbia, S. C., High School..........153-156
Connellsville, Pa., High School........254-256
Crookston, Minn., High School........288-290
Dayton, Ohio, Stivers High School.....272-274
Dedham, Mass., High School..........316-318
Dunbar High School, Paul L., Washington, D. C. 71- 77
East Aurora, N. Y., High School......275-277
Elko, Nev., High School..............304-307
El Paso, Tex., High School............230-233
Esplanade Avenue High School, New Orleans, La. 134-135
Fairmont, Minn., High School.........222-224
Franklin High School, Benjamin, Portland, Ore. 166-170
Greenfield, O., McClain High School...119-123
Harrison Technical High School, Carter, Chicago, Ill. 78- 82
High School of Practical Arts, Boston, Mass. 97- 99
Houston, Tex., South End Junior High School 296-297
Hot Springs, Ark., High School.......179-181
Huntington, W. Va., High School......124-129
Hutchinson, Kans., Sherman Junior High School 298-300
Iola, Kans., High School 308-310
Ione, Wash., High School.............246-247
Jackson, Cal., Union High School......250-251
Kenilworth, Ill., New Trier Township High School 8- 15
Ladysmith, Wis., High School........237-239
Lake Mills, Wis., High School.........248-250
Lebanon, Pa., High School............147-149
Little Rock, Ark., West Side Junior High School 301-303
Lincoln, Neb., High School............144-146
Lindblom High School, Robert, Chicago, Ill. 88- 92
Logansport, Ind., High School.........191-193
Louisville, Ky., Boys' High School.....160-165
Manasquan, N. J., High School.........282-283
McClain High School, Greenfield, Ohio..119-123
Mendota, Ill., High School...........225-227
Montclair, N. J., High School.........113-115
Mt. Carmel, Pa., High School.........256-258
New Castle, Pa., High School.........156-159
New Orleans, La., Esplanade Avenue High School 134-135
New Trier Township High School, Kenilworth, Ill. 8- 15
New York, N. Y., Bay Ridge High School 110-112
New York, N. Y., Flushing High School 264-268
Norwood, O., High School.............140-143
Parkersburg, W. Va., High School.....116-118
Philadelphia, Pa., West Philadelphia District High School 100-104
Pittsburgh, Pa., Schenley High School.206-211
Plainfield, N. J., High School.........136-139
Pontiac, Mich., High School........... 17- 19
Portland, Ore., Benjamin Franklin High School 166-170
Portland, Ore., Benson Polytechnic High School 171-174
Redondo Beach, Cal., High School.....204-205
Riverside-Brookfield High School, Riverside, Ill. 220-221
Rochester, N. Y., Junior High School..319-320
Rocky Ford, Colo., Intermediate School.228-229
St. Louis, Mo., Grover Cleveland High School 83- 87
Salt Lake, Utah, High School......... 93- 96
San Juan, Porto Rico, High School.....311-313
Santa Cruz, Cal., High School.........242-243
Schenley High School, Pittsburgh, Pa..206-211
Selma, Ala., High School.............196-197
Shamokin, Pa., High School..........150-152
Sharpsburg, Pa., High School.........284-285
Sidney, O., High School 217-219
Springfield, Ill., High School..........105-109
Sturgis, Mich., High School...........252-253
Trenton, N. J., Junior High School....291-295
Union Polytechnic High School, Venice, Cal. 212-216
Van Wert O., High School...........262-263
Venice, Cal., Union Polytechnic High School 212-216
Washington, D. C., Central High School 66- 70
Washington, D. C., Paul L. Dunbar High School 71- 77
Watsonville, Cal., High School........259-261
West Orange, N. J., High School.....198-201
West Philadelphia District High School, Philadelphia, Pa. 100-104
West Springfield, Mass., High School..240-241
Woodland, Cal., High School..........234-236
Ypsilanti, Mich., High School.........182-184

ARCHITECTS

Pages

Adams, Clyde S., Mt. Carmel High School 256-258
Allison & Allison, Redondo Beach High School 204-205
Ashford, Snowden, Paul L. Dunbar High School 71- 77
Bass, Herbert L., Logansport High School 191-193
Bausmith & Drainie, Norwood High School 140-143
Berlinghof & Davis, Lincoln High School 144-146
Christy, E. A., Esplanade Avenue High School 134-135
Cook, Clinton B., Manasquan High School 282-283
Cook, J. Horace, West Philadelphia District High School 100-104
Cooper, Frank Irving, Bennington High School 278-281
Davis, Paul A., Camden High School ... 130-133
Dillon, McLellan & Beadel, West Orange High School 198-201
Donovan, J. J., Elko High School 304-307
Eckles, W. G., Butler High School 193-195
Eckles, W. G., Connellsville High School 254-256
Eckles, W. G., New Castle High School. 156-159
Eldredge & Chesebro, Salt Lake High School 93- 96
Finlayson, A. C., San Juan, Porto Rico, High School 311-313
Fisher, Ripley & Le Boutillier, Andover High School 188-190
Gordon & Madden, Rochester, N. Y., Junior High School 319-320
Harding, Malcom B., West Springfield, Mass., High School 240-241
Harris & Merritt, East Aurora, N. Y., High School 275-277
Henry, J. Earl, Louisville Boys' High School 160-165
Hoyt, Clarence P., Amherst High School 202-203
Hussander, Arthur F., Carter Harrison Technical High School 78- 82
Hussander, Arthur F., Robert Lindblom High School 88- 92
Ittner, Wm. B., Central High School ... 66- 70
Ittner, Wm. B., Grover Cleveland High School 83- 87
Ittner, Wm. B., McClain High School .. 119-123
Ittner, Wm. B., Springfield, Ill., High School 105-109
Jones, C. Granville, Bloomfield High School 185-188
Keck, Bert D., Crookston High School .. 288-290
Keith & Whitehouse, Ione High School. 246-247
Kilham & Hopkins, Dedham High School 316-318
Law, James R., Lake Mills High School. 248-250
Layton & Smith, South End Junior High School 296-297
Lee, W. H., Shamokin High School 150-152
Llewellyn, J. C., Riverside-Brookfield High School 220-221
Mann & Gerow, Sherman Junior High School 298-300

Pages

Miller, Fullenwider & Dowling, Belvidere High School 244-246
Miller, Fullenwider & Dowling, Fairmont High School 222-224
Miller, Fullenwider & Dowling, Mendota High School 225-227
Mountstephen, E. J., Stivers High School 272-274
Mountjoy, French & Frewen, Rocky Ford Intermediate School 228-229
Naramore, F. A., Benjamin Franklin High School 166-170
Naramore, F. A. Benson Polytechnic High School 171-174
Packard, Frank L., Van Wert High School 262-263
Packard, Frank L., Parkersburg High School 116-118
Packard, Frank L., Sidney High School. 217-219
Parker Co., Walter, Jackson Union High School 250-251
Parkinson & Dockendorff, Arcadia High School 286-287
Parkinson & Dockendorff, Ladysmith High School 237-239
Perkins, Fellows & Hamilton, New Trier Township High School 8- 15
Perkins, Fellows & Hamilton, Pontiac High School 17- 19
Poland, W. A., Trenton Junior High School 291-295
Richter, A. A., Lebanon High School .. 147-149
Ritter, Verus T., Huntington High School 124-129
Robinson & Campau, Sturgis High School 252-253
Robinson & Campau, Ypsilanti High School 182-184
Russell Co., C. H., Venice Union Polytechnic High School 212-216
Sanders, M. B. & Theo., West Side Junior High School, Little Rock 301-303
Sanguinet & Staats, Hot Springs High School 179-181
Schweinfurth, J. A., High School of Practical Arts 97- 99
Snyder, C. B. J., Bay Ridge High School 110-112
Snyder, C. B. J., Flushing High School. 264-268
Starrett & Van Vleck, Montclair High School 113-115
Stotz, Edward, Schenley High School .. 206-211
Thayer, C. C. & A. L., Sharpsburg High School 284-285
Trost & Trost, El Paso High School 230-233
Urquhart & Johnson, Columbia High School 153-156
Voight, S. S., Caldwell High School 314-315
Vosbury, C. E., Binghamton High School 175-178
Warren, W. T., Selma High School 196-197
Weeks, W. H., Santa Cruz High School. 242-243
Weeks, W. H., Watsonville High School 259-261
Weeks, W. H., Woodland High School .. 234-236
Wilder & White, Plainfield High School. 136-139
Williamson & Co., Thomas W., Topeka High School 308-310
Wilson, C. L., Burley High School 269-271

HIGH SCHOOL PLANNING

DWIGHT HEALD PERKINS

Illustrated by four examples from the work of Perkins, Fellows & Hamilton, Architects, Chicago

It is a curious fact that a term so generally used as "High School" does not convey an idea of a secondary school having more or less standardized elements. The fact is, however, that no common interpretation of the term "high school" exists. This is because of the recent and rapid development of the high school idea, and of the various conditions under which high schools are planned and built, as well as the changing and far-from-uniform ideas governing their conduct.

Inasmuch as there is no unanimity, we will assume a definition of a high school, which whether it conforms to the convictions of the reader or not, will at least serve to explain the buildings used for illustrations in this article.

The fact that scarcely any two high school principals would agree at first on the definition of a high school and a statement of its requirements, and that very few principals have the same methods of estimating the capacity of a high school, makes the problem of the school architect both baffling and interesting. He must not only meet the desires and requirements of the board of education for whom he works, but he must understand the principles of the organization and conduct of a high school so that he may plan his building in accordance with general requirements. It is necessary that he build so that succeeding administrations may use his building in later years with the minimum of change or no change other than enlargement.

The rapid development of the junior high school idea, including vocational work in the seventh and eighth grades, or the "six-and-six" plan as opposed to the former "eight-and-four" plan, presents still another changing element, which must be met in the arrangement of modern high schools. Likewise the increasing use of auditoriums, gymnasiums, shops, and other portions of the school plant by the public, is something that must be provided for.

Not a long time ago a high school might be considered complete without study halls, provided there was a seat in a classroom for each pupil, and also provided that there was some kind of an assembly hall. Today this is not the case; some boards and principals demand a seat in a study hall for every pupil in the school; others, for half the number of pupils; and still others are introducing the directed study plan by which study space and recitation space are combined in classroom units, leaving separate undirected study rooms for senior and junior years only. To all of these controlling elements, must be added consideration of school population, which is rarely if ever stationary. The fact that population increases and that additions must be made in the future; that limitations of a financial character always exist, as well as the character and size of the high school site must likewise be considered. The conditions of site obviously control the general shape of the building and it is generally agreed now that a high school for a thousand pupils should contain at least ten acres, and that fifteen acres is better.

Definition of a High School.

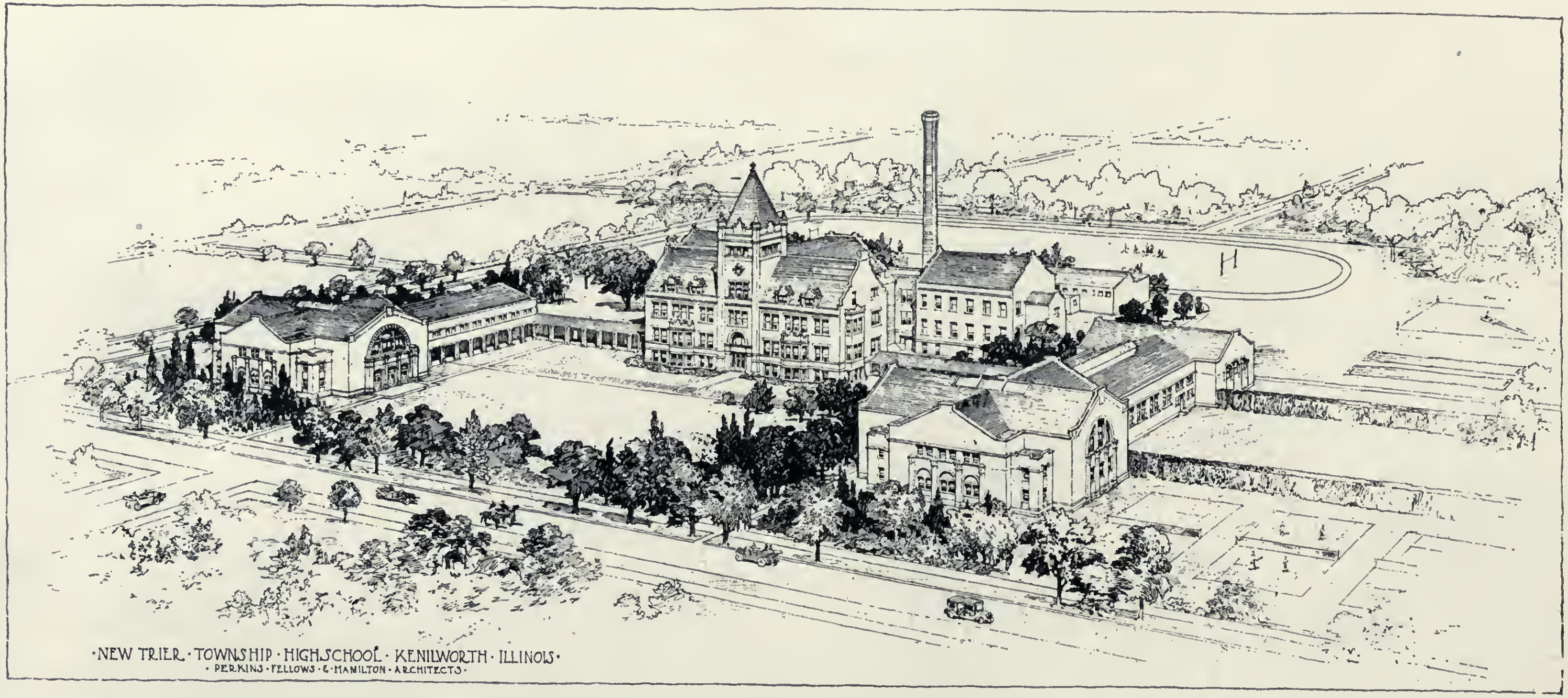
From our observation and from conference with many school people, we deduce the following, as a working definition of a high school to accommodate a thousand or twelve hundred pupils:

Classrooms. In the academic department there shall be sufficient classrooms for mathematics, languages and history; in the scientific department, there shall be laboratories, lecture rooms, and store rooms, for physiography, physics, chemistry, botany, zoology, and perhaps horticulture or agriculture.

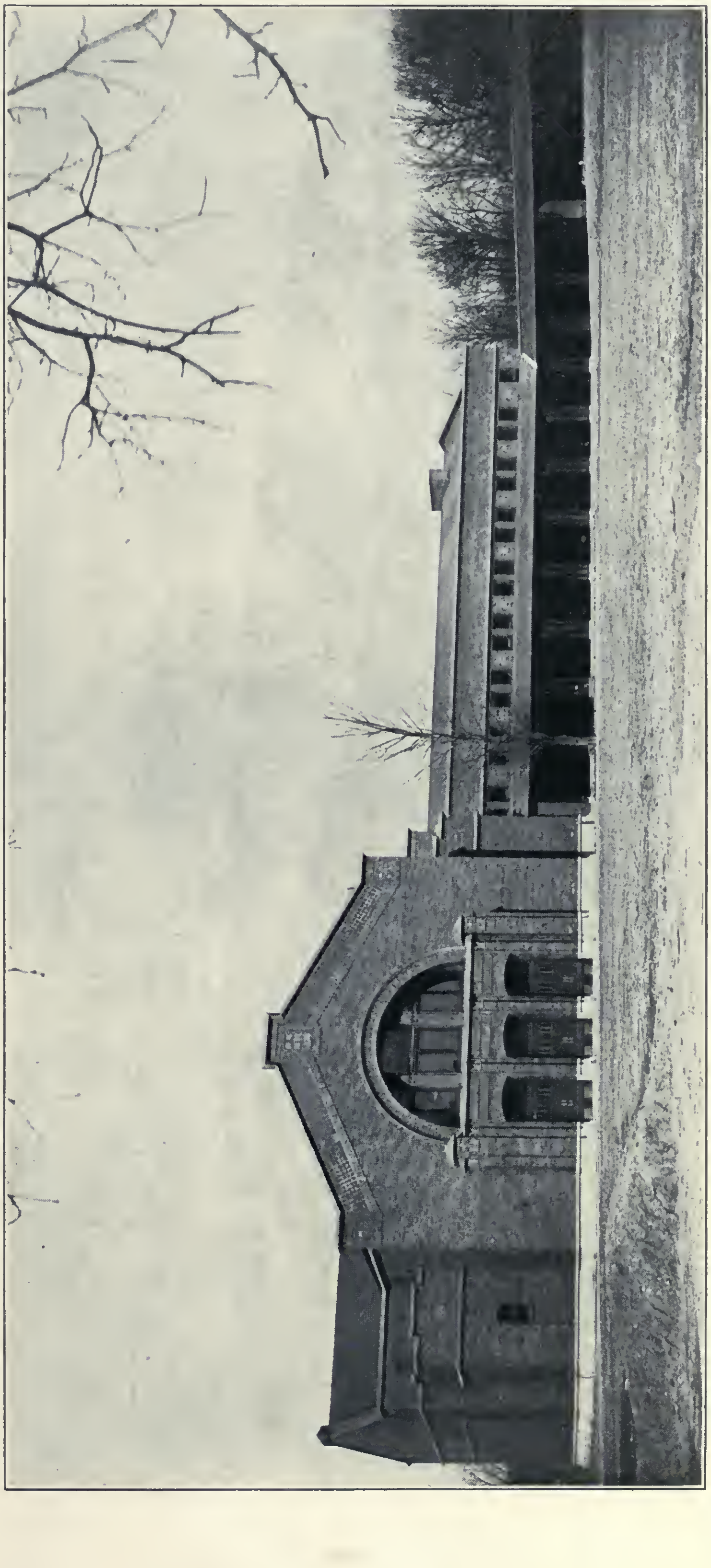
Manual Training. There shall be in the vocational department, shops for wood bench work, wood turning, wood patternmaking, for foundry, for forge, for machine shop, and possibly for electrical construction. There shall also be a printing shop.

For the girls, rooms for cooking, for laundry work, for sewing, and for practice in the care and maintenance of the home.

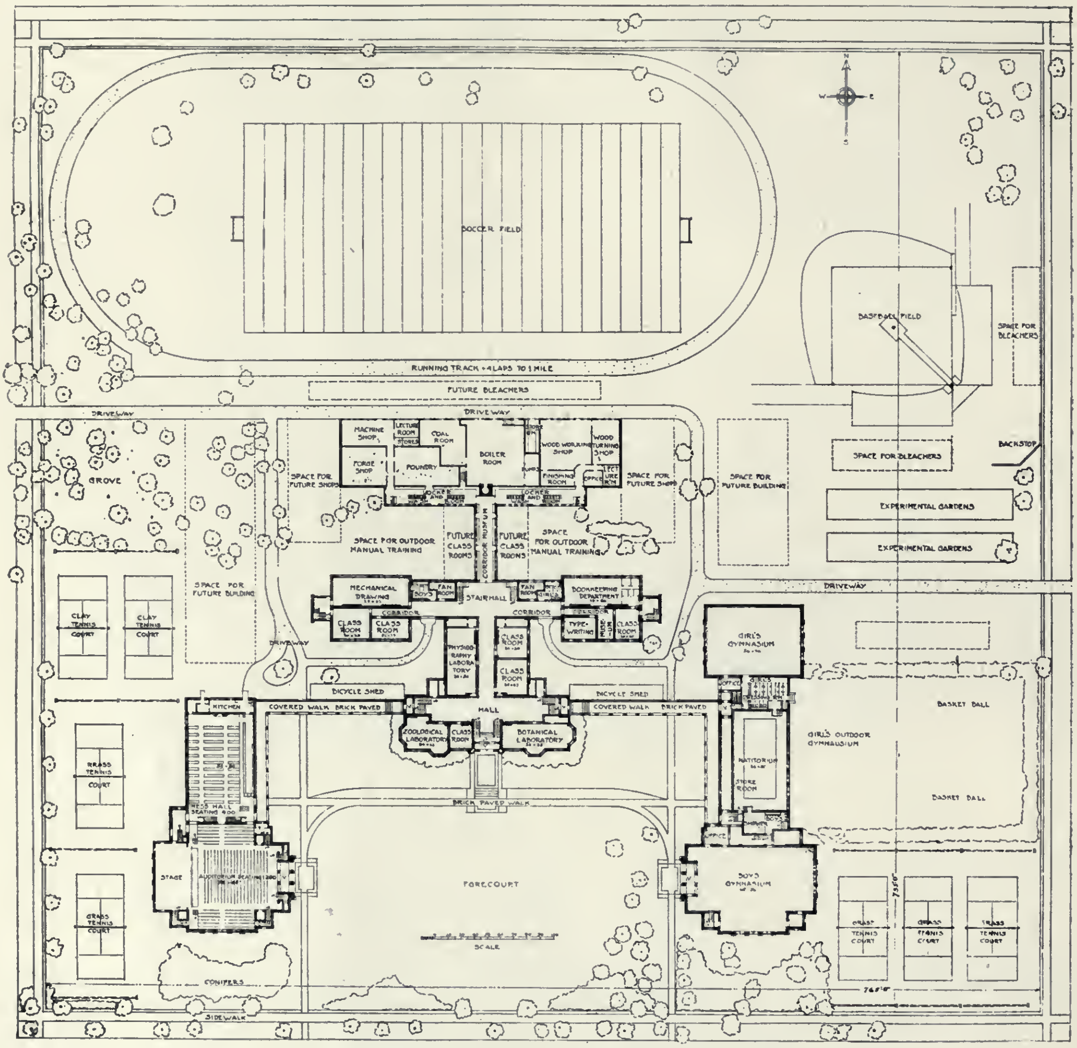
Drawing. In the drawing and art department, there shall be rooms and equipment for mechanical drawing, for free-hand drawing, for applied design; for art work in metals and clay. There shall also be studios and laboratories for


·NEW TRIER·TOWNSHIP·HIGHSCHOOL·KENILWORTH·ILLINOIS·
·PERKINS·FELLOWS·&·HAMILTON·ARCHITECTS·

NEW TRIER TOWNSHIP HIGH SCHOOL, KENILWORTH, ILL.



AUDITORIUM AND CAFETERIA WING, NEW TRIER TOWNSHIP HIGH SCHOOL.


N
W
E
S
SOCCER FIELD
RUNNING TRACK 4 LAPS TO 1 MILE
FUTURE BLEACHERS
DRIVEWAY
DRIVE WAY
BASEBALL FIELD
SPACE FOR BLEACHERS
BACKSTOP
EXPERIMENTAL GARDENS
EXPERIMENTAL GARDENS
SPACE FOR FUTURE BUILDING
GROVE
SPACE FOR FUTURE SHOPS
MACHINE SHOP
LECTURE ROOM
STORES
COAL ROOM
FORGE SHOP
FOUNDRY
BOILER ROOM
STORE RM
PUMPS
WOOD WORKING SHOP
WOOD TURNING SHOP
FINISHING ROOM
OFFICE
LECTURE R'M
SPACE FOR FUTURE SHOPS
LOCKER AND WASH ROOM
LOCKER AND WASH ROOM
SPACE FOR OUTDOOR MANUAL TRAINING
FUTURE CLASS ROOMS
CORRIDOR MUSEUM
FUTURE CLASS ROOMS
SPACE FOR OUTDOOR MANUAL TRAINING
SPACE FOR FUTURE BUILDING
MECHANICAL DRAWING
BOYS
FAN ROOM
STAIRHALL
FAN ROOM
GIRLS
BOOKKEEPING DEPARTMENT
CORRIDOR
CORRIDOR
CLASS ROOM
CLASS ROOM
TYPE-WRITING
MUSEUM
CLASS ROOM
DRIVEWAY
PHYSIOGRAPHY LABORATORY
CLASS ROOM
CLASS ROOM
CLAY TENNIS COURT
CLAY TENNIS COURT
DRIVEWAY
GIRL'S GYMNASIUM
OFFICE
GIRLS
BICYCLE SHED
BICYCLE SHED
KITCHEN
COVERED WALK BRICK PAVED
HALL
COVERED WALK BRICK PAVED
ZOOLOGICAL LABORATORY
CLASS ROOM
BOTANICAL LABORATORY
BASKET BALL
GIRL'S OUTDOOR GYMNASIUM
NATATORIUM
STORE ROOM
BASKET BALL
GRASS TENNIS COURT
MESS HALL SEATING 900
BRICK PAVED WALK
BOYS
OFFICE
STAGE
AUDITORIUM SEATING 1200
FORECOURT
BOYS GYMNASIUM
SCALE
735'0"
GRASS TENNIS COURT
GRASS TENNIS COURT
GRASS TENNIS COURT
GRASS TENNIS COURT
CONIFERS
SIDEWALK
765'0"

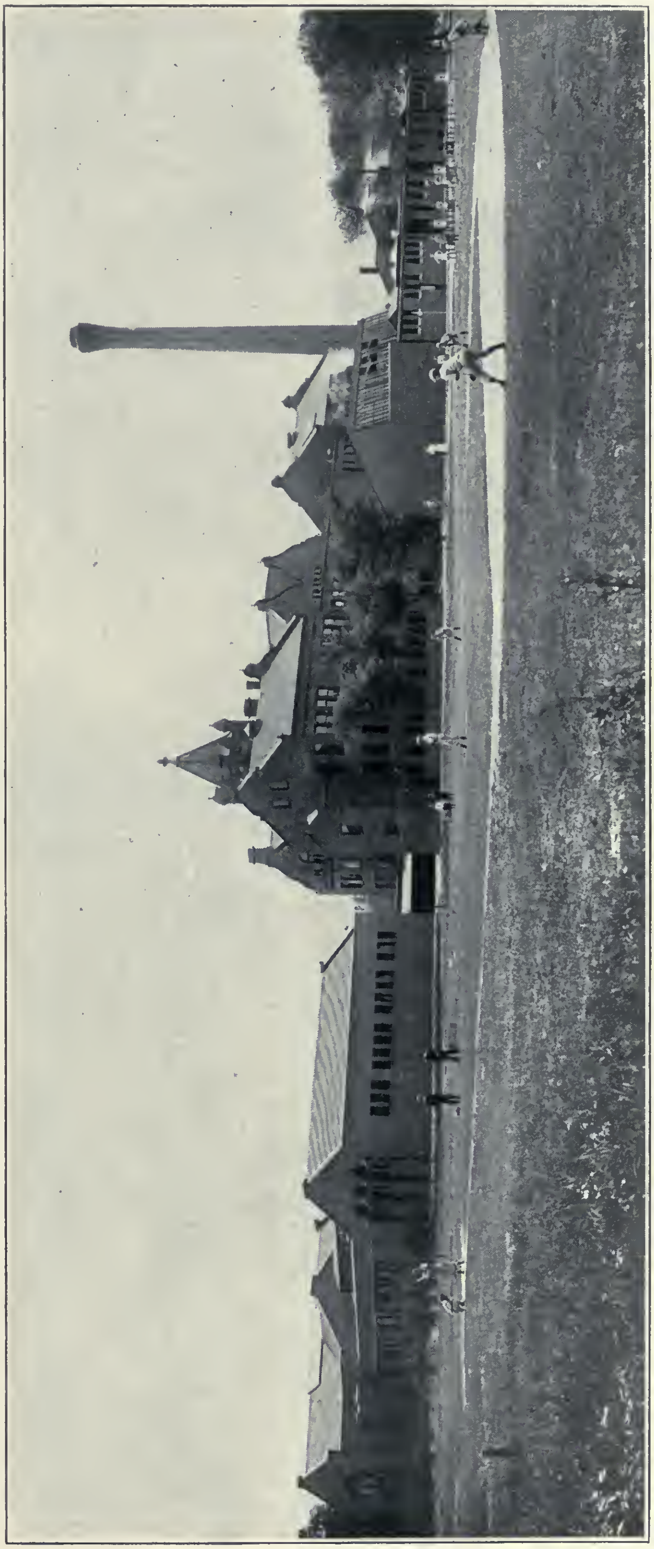
PLAT OF NEW TRIER TOWNSHIP HIGH SCHOOL, KENILWORTH, ILL.

applied or commercial design, to be used in conjunction with the shops and sewing rooms.

Commerce. In the commercial branch of vocational work, there shall be rooms for typewriting; for stenography; for bookkeeping, banking; correspondence; penmanship and commercial geography.

Assembly Halls. All high schools for a number of years have included an assembly hall, and it is now commonly demanded that the assembly hall be large enough to seat the entire school, and that it be so arranged that it may be used by the public not only in the evening, but during the daytime hours without interfering with school sessions. School boards have come to demand a special type of stage in these assembly halls; one, which may seat approximately two hundred people in a high school of a thousand, and which may be adapted both for dramatics with a small proscenium opening, or for choral work with a large opening. Stages in modern assembly halls are now being adapted for and used by the music departments, so that choruses or orchestras may use them for their daily work, and that they may at such times be separated from the assembly hall; simplifying the problem of administration and heating.

Library. High schools always demand reference libraries; sometimes they are required in one location only; sometimes separated into



PHYSICAL CULTURE GROUP, MAIN BUILDING, SHOP AND ATHLETIC FIELD, NEW TRIER TOWNSHIP HIGH SCHOOL, KENILWORTH, ILL.

scientific and classical departments, variously located according to use. Again it is frequently required that the facilities of a circulating library be instituted, in which case, easy public access is a necessity. All of these elements are included in our definition.

Lunch Room. The modern high school requires a lunch room capable of seating at least half of the ultimate pupil capacity, as well as a kitchen and store room large enough and well enough equipped to manufacture and cook and serve foods, and store supplies in wholesale quantities.

Gymnasiums. All high schools now require a gymnasium large enough for basket ball and indoor base ball. A change is rapidly coming; in fact may be said to be here, by which the athletic exhibition idea is recognized and provided for. Running tracks are being eliminated in favor of the outdoor field track; and spectators' galleries and seats are taking the place of the former running track inside the gymnasium. It is not an uncommon requirement that a gymnasium shall accommodate at least five hundred spectators. A high school is not regarded complete now unless it has a separate gymnasium for girls, and a natatorium for alternate use of the boys and girls, and some high schools are now requiring what is termed an exercise room for physical drill, in addition to the two gymnasiums. This is more for individual development and preparation than for team athletics, which are coming to monopolize the gymnasium.

Athletic Field. There is practical unanimity now upon the demand that the field and the school be in the same location—a field one-half mile or more away is only accepted as a last alternative. This is particularly true where the Gary idea is being introduced, which involves the use of all portions of the building and accessories at all times. This program not only increases the capacity of the school building and field, but makes it the custom that the field shall be used in the morning as well as the afternoon and necessitates very close proximity and availability.

Accessories. It is unnecessary to mention the accessories which are required by all schools in addition to the above, such as fireproof construction, corridors and stairs; ample exits; locker rooms and toilets; book and supply store; heating and lighting apparatus; administrative offices; vaults, etc. The greatest divergence in any of these items relates to the lockers; some recognized authorities prefer the separate locker room, but an increasing number appear to prefer the corridor locker, if it can be made of metal; be securely locked, and be thoroly ventilated by a constant flow of air in at the bottom and out at the top.

Classrooms are uniformly required which have unilateral light and at least fifteen feet of floor space per pupil; a majority of authorities will prefer east and west light for all classrooms except those used for drawing. South light is preferred for most laboratory work, and north light for drawing, for shops and certain other vocational work.

Pupil Capacity of High School Buildings.

It is coming to be commonly accepted that classrooms are to be limited in their capacity to thirty pupils. All of this may be regarded as a statement of the requirements of the modern high school, and may be accepted as a definition so far as this article is concerned.

It brings us to the next point of consideration, which is that of capacity. The School Board Journal is exerting its influence toward a clear and generally understood statement, or method of determining the capacity of schools. Our own method, which is frankly an approximation of the methods and ideas of a number of educators is, to assume—

First, that a high school has all of the elements described above, and that its capacity may be assumed to be the number of seats in the classrooms (number of classrooms multiplied by thirty) plus fifty per cent of that number. This fifty per cent is assumed to be the number of pupils in the shops, gymnasium, laboratories and drawing rooms.

This method will be used in estimating the capacity of the schools used for illustrations in this article.

In this connection a discussion of the number of stations per pupil is pertinent. A school can be arranged meeting this definition and this estimate of capacity with three stations per pupil; that is, there may be a seat in the assembly hall for each pupil; there may be a seat in a classroom for three-fourths of the pupils; there may be seats in study halls for three-fourths of the pupils at one time, and there may be space in some laboratory, shop or drawing room for half of all of the school at one time. This would make a three-station school, and would permit of the degree of flexibility usually required in organizing and conducting a high school. There are authorities, however, who believe that there should be a seat in a classroom and a seat in a study hall, for the entire school, or for every pupil at one time. These proportions, if carried out, show four stations for every pupil, and obviously make the problem of organization much easier. It also gives a home room to every teacher as well as a home desk in a study hall to every pupil. The Illinois school which is one of the four illustrated in this article, is the only one of the four schools here shown, in which this "four station" idea is worked out.

Cubic Foot Cost.

It is not the purpose of this article, which is a discussion of new elements in planning, to refer at any great length to the item of cost. This could not be done in any careful or valuable manner under building conditions, existing in 1917. The method most generally used and the one producing the least confusion, is the cost per cubic foot method. This, however, is misleading, unless it accompanies a definition of a high school which will make clear, what it is that is being provided for each pupil; or in other words, will state the number of cubic feet built for each pupil, or again the number of dollars required to build a high school, per pupil.

This latter test would be the more valuable one, if there were unanimity upon the definition of what should be included in a high school built and equipped for a complete course. The original portion of the Pontiac High School built in 1913, illustrated herewith, was built at the rate of fourteen cents per cubic foot, fireproof construction. This building did not comply, however, with the definition which we are following, and there is at the present time an addition equal to fifty per cent of the original building being constructed. These contracts were let in 1917 and the cost due to present conditions, for construction similar to that of 1913, was twenty cents per cubic foot. Authorities differ in their statements of cost per pupil all the way from $300 to $500. It is the opinion of the writer that $400 per pupil ought to be appropriated at a time when building can be done for fifteen cents per cubic foot, in order

NATATORIUM, NEW TRIER TOWNSHIP HIGH SCHOOL, KENILWORTH, ILL.

ASSEMBLY HALL, NEW TRIER TOWNSHIP HIGH SCHOOL, KENILWORTH, ILL.

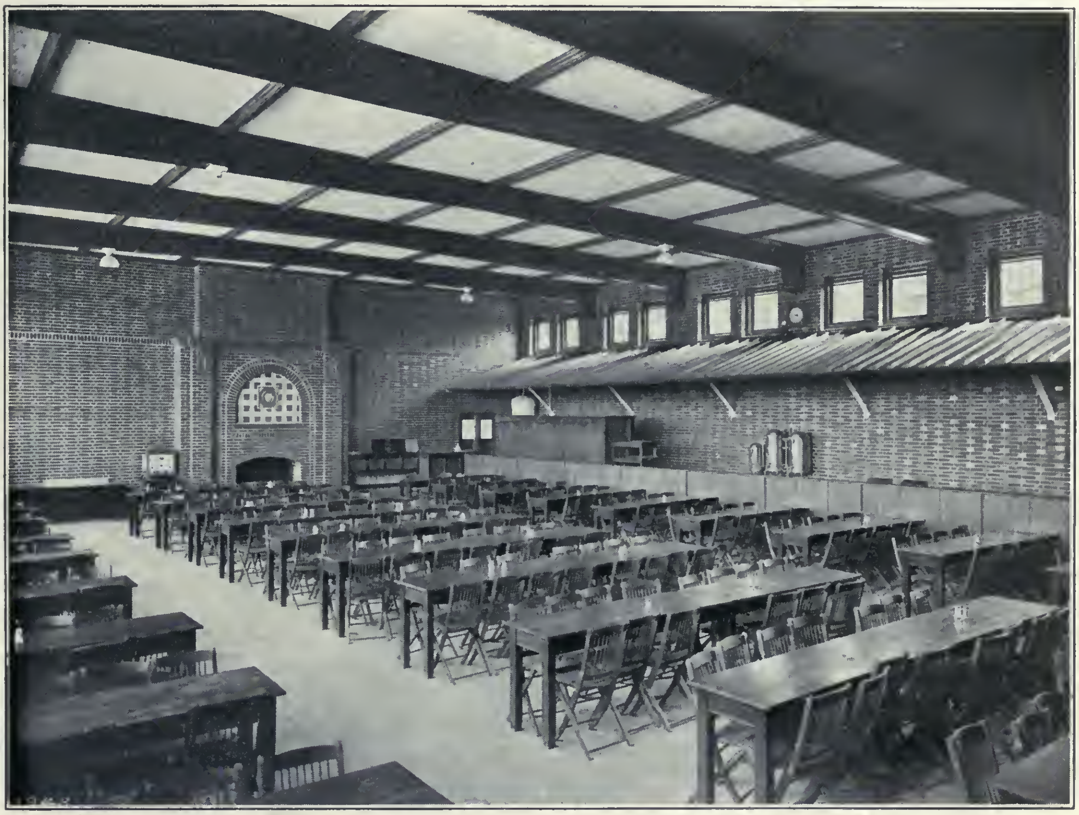
that a complete high school may be constructed and at least one thousand pupils provided for. This ratio will decrease slightly as the number of pupils to be accommodated increases.

It is hoped that the efforts now being made by various committees to define and unite upon a system of measurements, may bear fruit; but in order that it may be of the greatest usefulness, such measurements must be related to some equally well understood and accepted definition or statement of requirements of a modern high school. Having determined upon the definition; having acquired the site; and having knowledge of the funds available, the next step in the planning of a high school, is the consideration of type plans and the choice of the general scheme of arrangement.

Types of Plans.

We may to a degree ignore cost in the choice of a type of plan, because the differences in cost between the various types are not great enough to counterbalance the advantages of the most desirable arrangement. Boards should insist upon the provision that the plan be so devised that future additions may be made readily without the loss of school time or public money. Wherever the site contains ten acres or more, perfect freedom of choice in the type of plan will exist. We shall discuss later a solution where such a choice did not exist because of the small dimensions of the site. Having chosen a type which may be built if necessary on the installment plan, the wisest course is to go as far as the funds permit with the best plan and then stop. It is never wise, no matter how limited the funds may be, to build anything which is not planned exactly as desired. A proper plan partially built, may be completed later; an improper plan can only with difficulty, if at all, be converted into a proper one, at a future date.

The types of plan for comparison and choice may be indicated by such general terms as these: The "Hollow Square Plan"; the "T" plan; "E"



LUNCHROOM, NEW TRIER TOWNSHIP HIGH SCHOOL, KENILWORTH, ILL.

plan; "H" plan; the "Group Plan" and the "Group Plan Concentrated."

Hollow Square Plan. The "hollow square plan" has probably been adopted in more cases in the United States than any other general type. It has a center entrance leading directly to the assembly hall, which is in the center of a large court, around which corridors circulate, with educational space on one or both sides.

"E," "H" and "T" Plan. The "E" and "H" plan are in general, composed along lines suggested by the shape of these letters. The same is true of the "T" plan, which has the element of concentrated corridors, and easy control, which none of the others possess to so great a degree. All of these plans may develop into buildings that are well lighted if the hollow square is large enough to make the center court ample.

Group Plan. The "group plan" proceeds generally on the assumption that it is wise to concentrate the academic and scientific portions in a central and higher building than the other portions, and that it is advisable to have such large units as the assembly hall, gymnasium, mess hall and natatorium directly upon the ground level, without basements beneath or stories above. The advantages are greater safety, due to the absence of stairs; greater light due to the possibility of sky-lights; and easier adaptability for concurrent use by the public, or by portions of the school, such as orchestras and choruses, which might disturb school sessions if they were closely related to the classroom portions.

This plan also makes a more practical, better lighted and better ventilated shop arrangement for the manual training department, than any plan in which these rooms are incorporated with others in one main building.

Group Plan Concentrated. The "group plan concentrated," which appears to be a contradiction in terms, is one in which the advantages and elements of the group plan spread over a wide area, are so brought together or concentrated, that the structure may be erected upon a comparatively small site.

It has been found by experience that the group plan does not vary greatly in cost over the large single building, which must be generally three stories high, sometimes more. The extra expense which is occasioned by the greater amount of foundation construction and the greater area of roofs and sky-lights, is offset by the saving in stairways, in thickness of walls; in the omission of basements, and the consequent expensive floor construction between basement and main floors, and the cheaper method of constructing roofs, which in the group instance, may be less expensive and less fireproof than is the case wherever people are housed in rooms built over large areas with great spans.

The fact of the possibility of skylights and the consequent perfect light which their use provides, is so great an advantage as to justify considerable extra expense, even if that be necessary; and of course it is unnecessary to state that the advantage in the item of safety of the people when they are on the ground level, is worth any reasonable amount that it may cost to provide such safety.

Reference to the accompanying illustrations will also show the very easy manner in which future additions or extensions may be arranged. It is possible to exclude an entire division, like the physical culture portion consisting of the two gymnasiums and the natatorium, if funds are limited, and the rest of the plan can be put up in proper manner, even tho these portions are postponed. This is exactly what happened in the New Trier instance; the physical culture portions were not put under contract until several months after the other portions were contracted for, and not until a referendum vote had been submitted to the people, which resulted in their emphatic endorsement of and demand for these portions of the school.

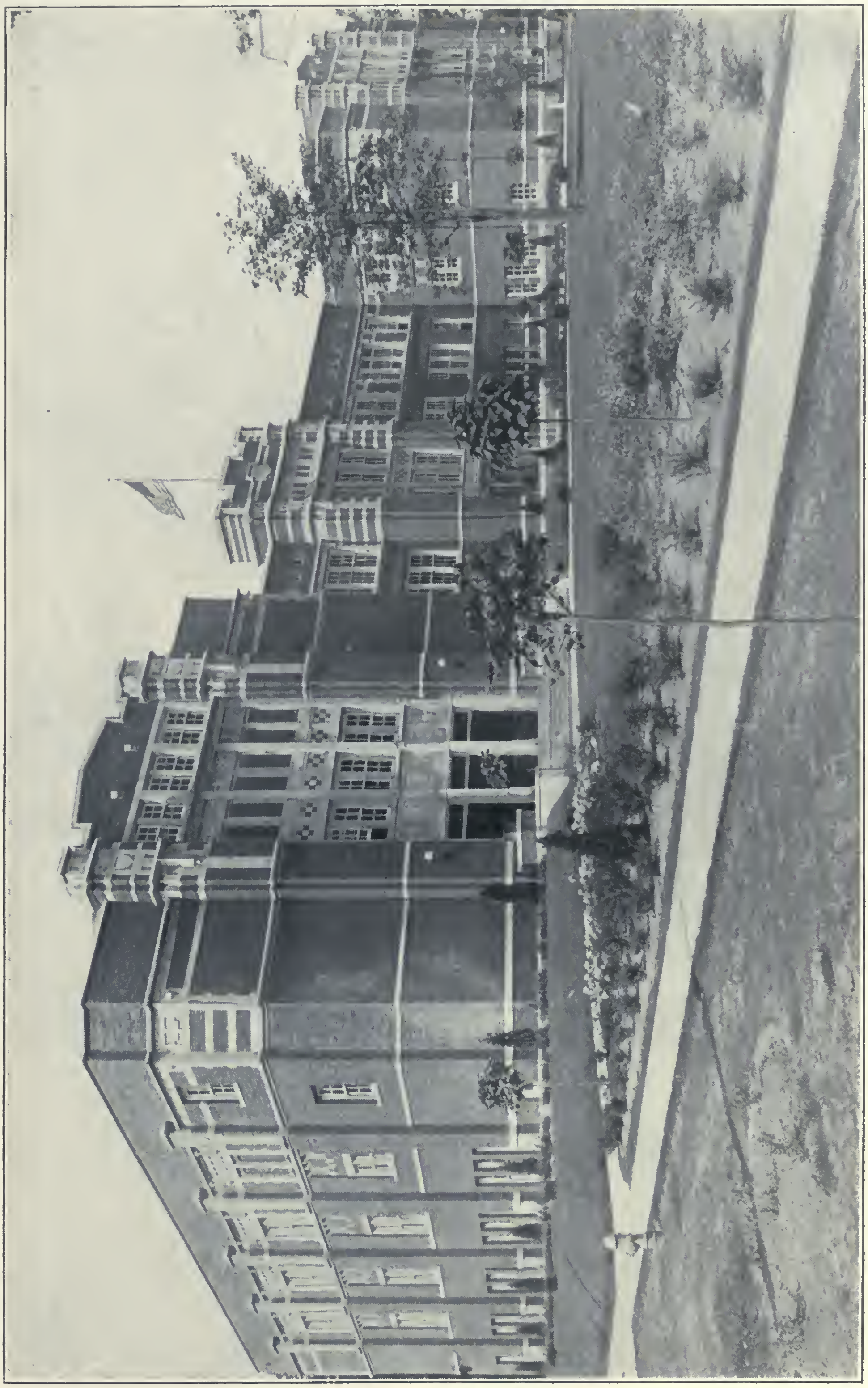
Another advantage in the Group Idea is that it enables those large units—assembly hall, mess hall, gymnasiums—to be built according to dimensions large enough for the ultimate school capacity. It is obvious that such units cannot be increased after they are once built. On the other hand, classrooms and laboratories not needed at the time the structure is originally erected, may be easily postponed. Such units as these may be multiplied as needed and as the school population grows and need not be built until they are needed. This again is an obvious financial advantage.

Still another feature of the group plan, and one which is illustrated at the New Trier school, is the freedom to meet changing educational demands. There are two large units planned in the New Trier group without any reference to what their use will be. The space is there; buildings erected thereon may be devoted to most any conceivable educational requirement, and they may be connected with the heating, ventilating and lighting plant, as well as the corridors whenever in the future such educational demand is developed sufficiently to enable these requirements to be known.

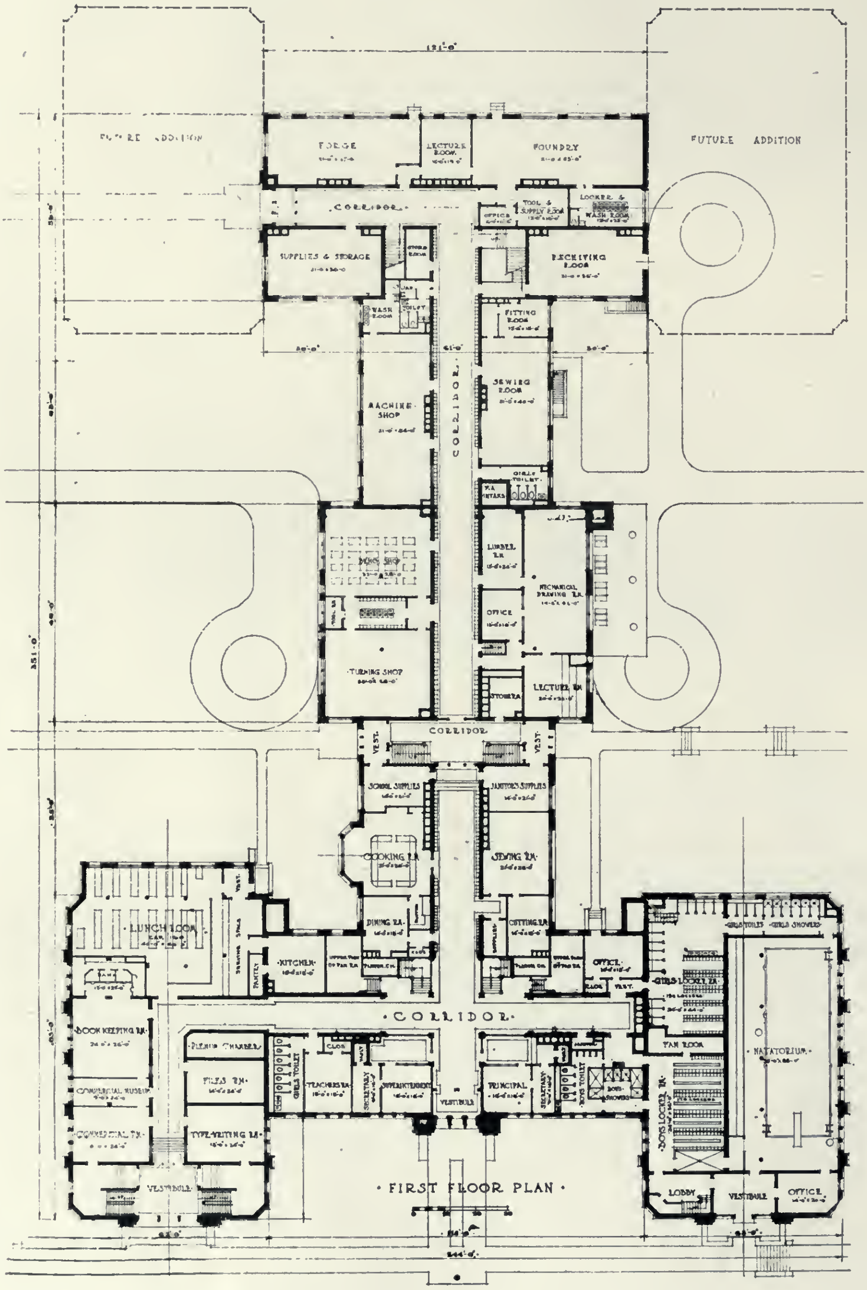
The Illustrations.

The illustrations accompanying this article, illustrate: First, The group plan for a fourteen acre site, as was built for the New Trier Township High School at Kenilworth, Ill. Second, the "T" plan adapted to a site which was only three hundred feet wide. The building was erected at Pontiac, Mich. This site is of indefinite and ample length and the additions are therefore being constructed along the main central axis. Third, a plan which has been adopted by an Illinois Township High School Board of Education for construction for a school of from twelve hundred to fifteen hundred students. This is the "T" plan with large units at either end, which may be connected or separated in their use from the central main portion. Fourth, a plan which has been adopted by a Michigan board of education, which illustrates for lack of a better or more logical term, what we call, the "concentrated group." This gives as far as possible, the advantages of both the New Trier open block plan and the "T" plans in both the Pontiac and the Illinois school, under conditions of a very contracted site, about three acres. It is of course obvious that there is no athletic field in the fourth plan, but with that exception, the elements and facilities in our definition are all included in this instance.

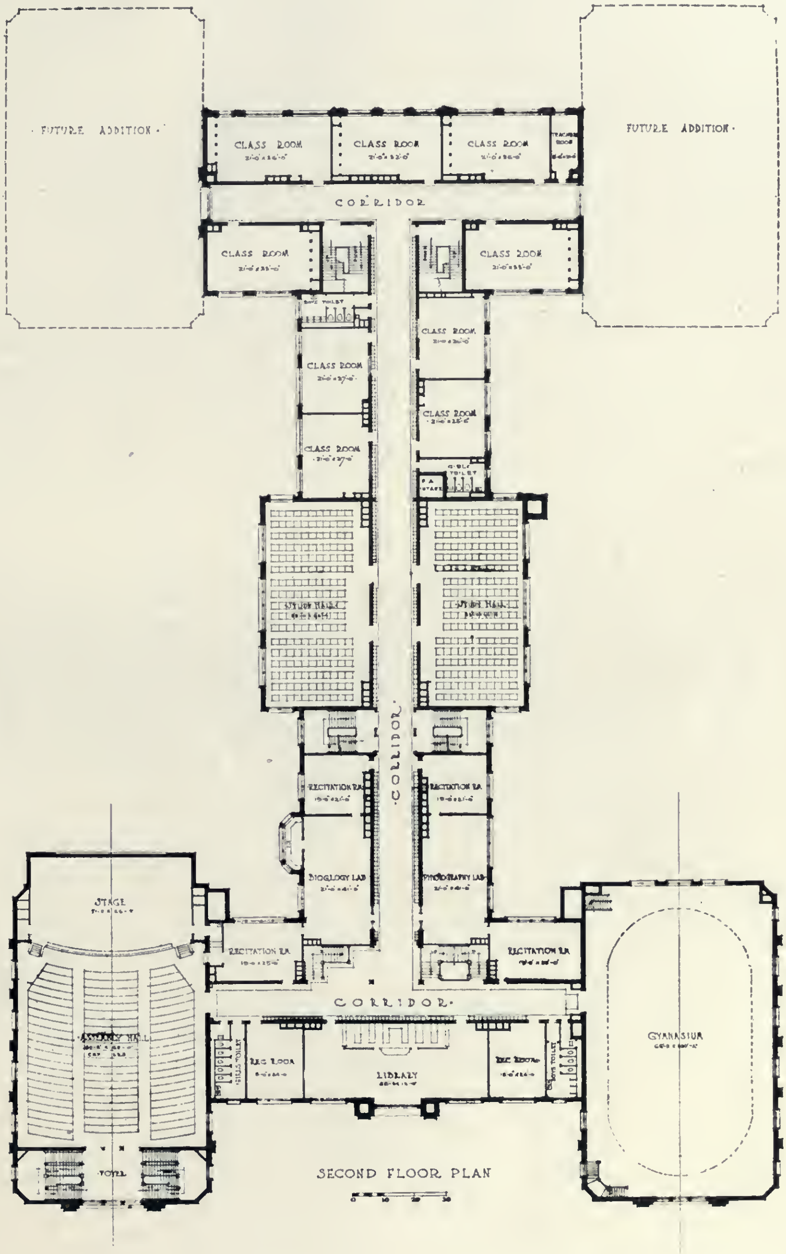
First Illustration—the New Trier High School. In this instance the main frontage is south. The original building which is the central portion around the tower, was designed several years ago by Patton & Miller, architects. The re-arrangement of the center portion and the construction of the surrounding units which is the work of Perkins, Fellows & Hamilton, was erected in 1911. All of the desirable elements noted above in the description of the Group Plan will be found upon examination of the drawings, to exist in the New Trier School.



HIGH SCHOOL, PONTIAC, MICH. Perkins, Fellows & Hamilton, Architects, Chicago.


FUTURE ADDITION
FORGE
LECTURE ROOM
FOUNDRY
FUTURE ADDITION
CORRIDOR
OFFICE
TOOL & SUPPLY ROOM
LOCKER & WASH ROOM
SUPPLIES & STORAGE
RECEIVING ROOM
WASH ROOM
TOILET
FITTING ROOM
MACHINE SHOP
CORRIDOR
SEWING ROOM
GIRLS TOILET
BENCH SHOP
LUMBER RM
MECHANICAL DRAWING RM
OFFICE
TURNING SHOP
LECTURE RM
STORE RM
CORRIDOR
VEST.
VEST.
SCHOOL SUPPLIES
JANITOR'S SUPPLIES
COOKING RM
SEWING RM
LUNCH ROOM
DINING RM
CUTTING RM
KITCHEN
PANTRY
OFFICE
GIRLS TOILETS
GIRLS SHOWERS
GIRLS LOCKER RM
CORRIDOR
BOOK KEEPING RM
PLENUM CHAMBER
FILES RM
COMMERCIAL MUSEUM
COMMERCIAL RM
TYPE-WRITING RM
GIRLS TOILET
TEACHERS RM
SECRETARY
SUPERINTENDENT
VESTIBULE
PRINCIPAL
SECRETARY
BOYS TOILET
BOYS SHOWERS
FAN ROOM
NATATORIUM
BOYS LOCKER RM
VESTIBULE
FIRST FLOOR PLAN
LOBBY
VESTIBULE
OFFICE

FIRST FLOOR PLAN, HIGH SCHOOL, PONTIAC, MICH.


FUTURE ADDITION
CLASS ROOM
21'-0" x 26'-0"
CLASS ROOM
21'-0" x 32'-0"
CLASS ROOM
21'-0" x 26'-0"
TEACHERS ROOM
FUTURE ADDITION
CORRIDOR
CLASS ROOM
21'-0" x 33'-0"
CLASS ROOM
21'-0" x 33'-0"
BOYS TOILET
CLASS ROOM
CLASS ROOM
21'-0" x 27'-0"
CLASS ROOM
21'-0" x 25'-0"
CLASS ROOM
21'-0" x 27'-0"
GIRLS TOILET
STUDY HALL
STUDY HALL
CORRIDOR
RECITATION RM
RECITATION RM
BIOLOGY LAB
PHOTOGRAPHY LAB
STAGE
RECITATION RM
RECITATION RM
CORRIDOR
ASSEMBLY HALL
GIRLS TOILET
REC ROOM
LIBRARY
REC ROOM
BOYS TOILET
GYMNASIUM
FOYER
SECOND FLOOR PLAN
0
10
20
30

SECOND FLOOR PLAN, HIGH SCHOOL, PONTIAC, MICH.

In addition to this, a quarter mile running track; a foot ball gridiron; a base ball diamond, and seven tennis courts are provided for. The girls have special consideration in the field, a track over an acre in extent being devoted exclusively to their use, and separated from the rest of the field by a high hedge.

The corridors connecting the main buildings with the outlying units are roofed but not enclosed, it being the desire of the management that the children should have as much exposure to outdoor air as that implies in passing from one part of the plant to the other between periods. The capacity at present is seven hundred pupils; ultimate capacity will be twelve hundred.

Second Illustration—the Pontiac, Michigan, High School. The superintendent in this instance desired local and central control of the corridors and the "T" plan was adopted. The usual assembly hall with the gymnasium either beneath or above, located opposite the main center entrance was avoided, because one or the other is almost always poorly lighted. A main corridor on the central axis was also desired for access to future extensions. A separate unit to the left, or south, in which the assembly hall was located, was built; and a similar wing to the north in which the gymnasium and natatorium were located, was also built. The study halls were placed on opposite sides of the main long corridor, and this corridor is now being extended beyond the study halls to unite the addition at present under construction.

It will be seen that the assembly hall and gymnasium wings, each of which has separate entrances for the public, may be separated entirely from the school, and used by the public, particularly in the evening, or they may be entered directly by the pupils of the school thru the main corridors in the daytime. The former capacity was 675; the present capacity is one thousand pupils.

Third Illustration—an "Illinois High School." In this case the management desire corridor control, and have therefore adopted the "T" plan for the academic and scientific portions. All of the elements referred to as desirable in both the New Trier and the Pontiac plants, have been retained insofar as they apply to the assembly hall, gymnasiums and natatorium. Because of a peculiar grade in the site, a high basement exists, and it has therefore seemed advisable to build the boiler rooms and power department, as well as the shops within the west wing, placed at right angles to the main axis.

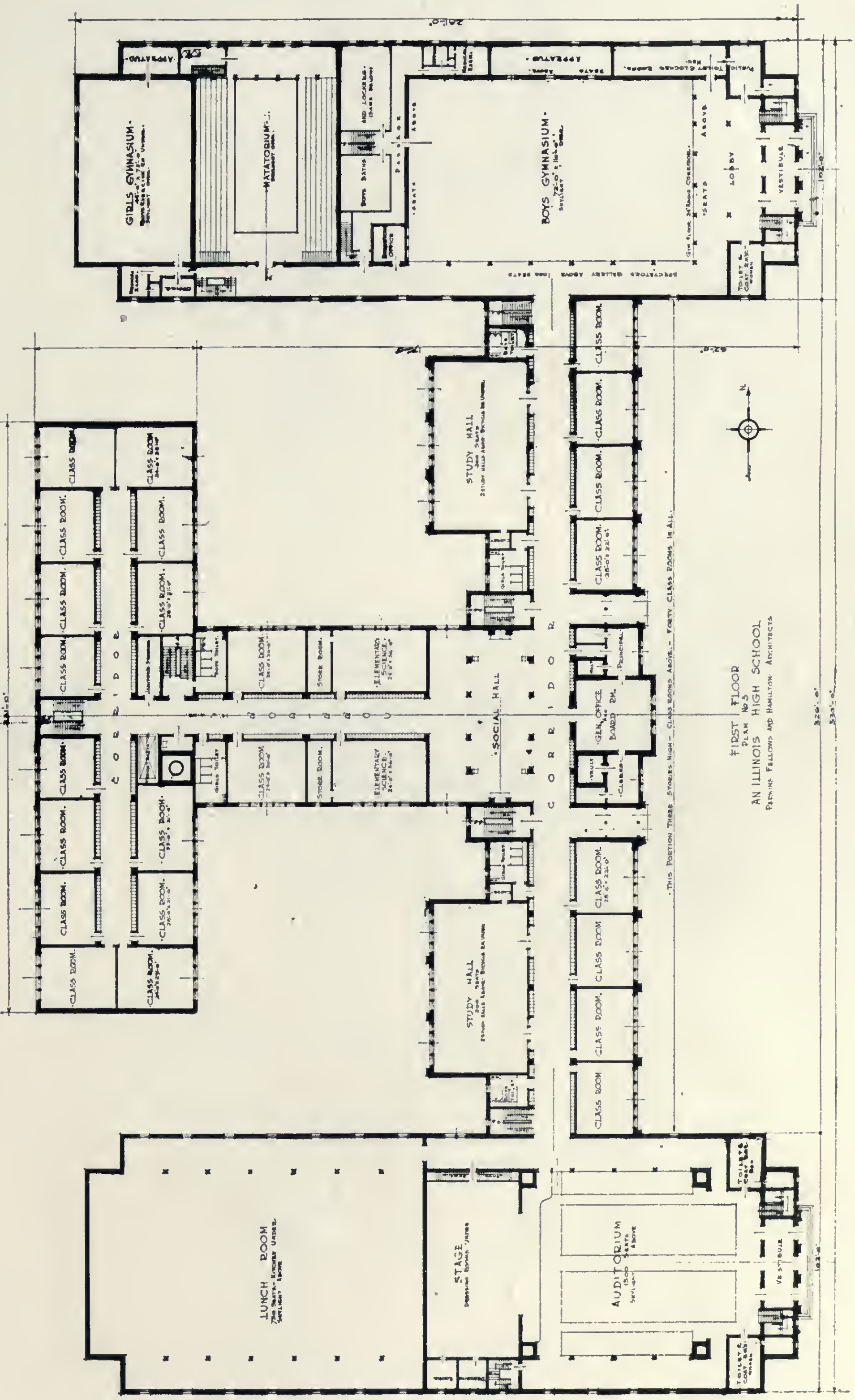
The plan is interesting, because it embodies the four station per pupil idea. The capacity is twelve hundred pupils; as many schools are conducted the capacity will be fifteen hundred pupils.

Fourth Illustration — a "Michigan High School." As stated above this plan includes all of the top light advantages of the New Trier and Illinois schools. The units may also be built at various times, postponing portions if necessary in order to spread the expense over a greater period.

The item of control in this case differs radically from that in the Illinois school—in that plan the control is in the hands of the principal and his assistants in the office, located between the two main entrances, the principal being less desirous of controlling the public than he is of controlling the pupils. While the principal in the school illustrated in the fourth plan does not give up his control of the pupils, his clerks at the counter have absolute control of both pupils and the public as they enter the center foyer, from which they proceed directly, on the one hand to the auditorium, and on the other hand, to the gymnasium, and by proceeding directly to the north, the pupils enter the locker rooms, corridors and stairways.

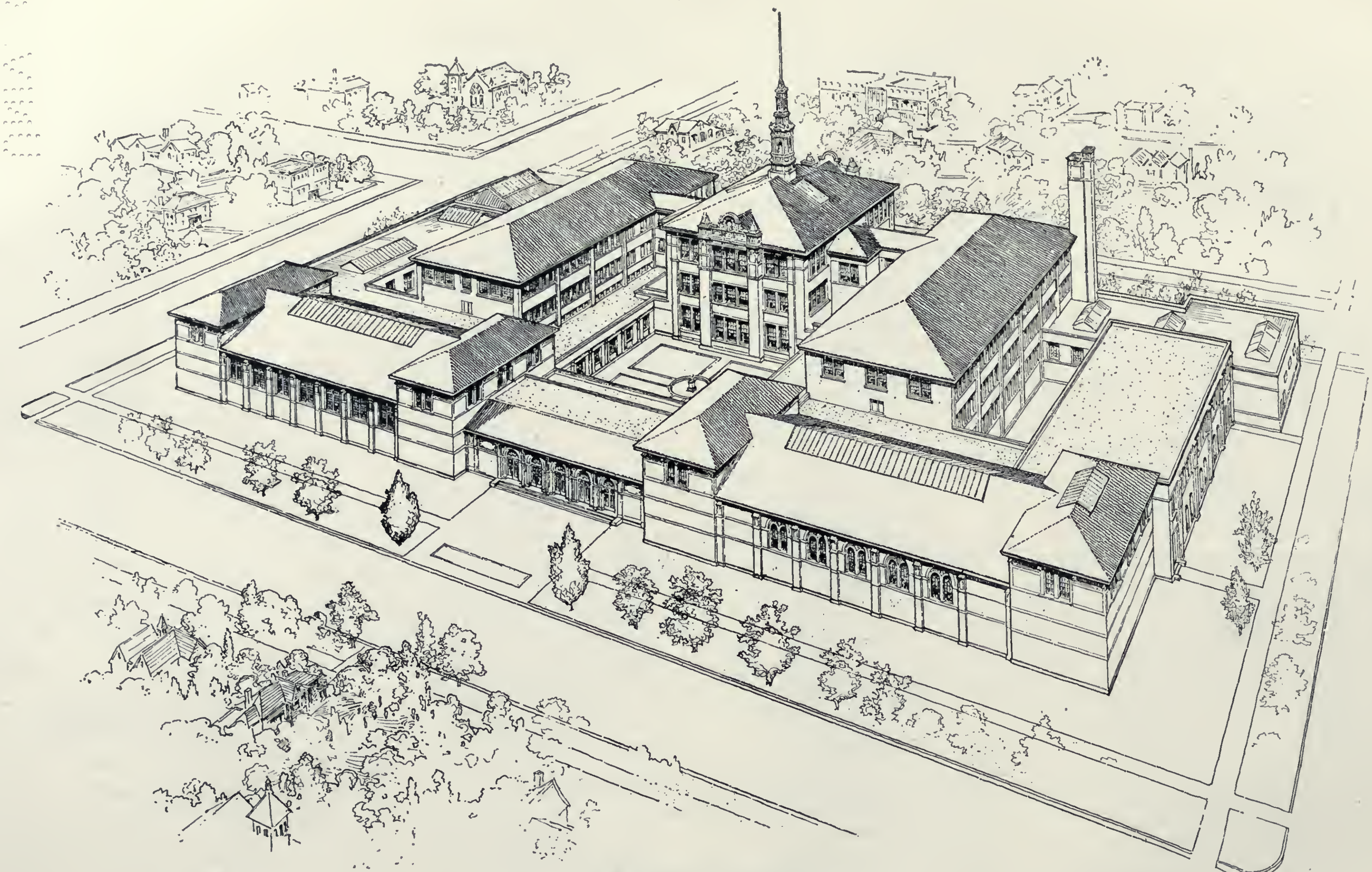
The study halls illustrated in the fourth plan are frankly removed from the principal's office, and are under the control of separate teachers or monitors and are related closely to the classrooms, laboratories, the commercial and art departments, as well as the shops on the first floor.

This plan is on the basis of a seat in the study hall for each pupil, and has not yet been related to the coming idea for directed study. This plan if incorporated in the organization of the school will make some changes in this portion of the structure. This fourth plan is on the basis of three and one-half stations per pupil, and is rated according to our method, as a twelve hundred pupil capacity high school.

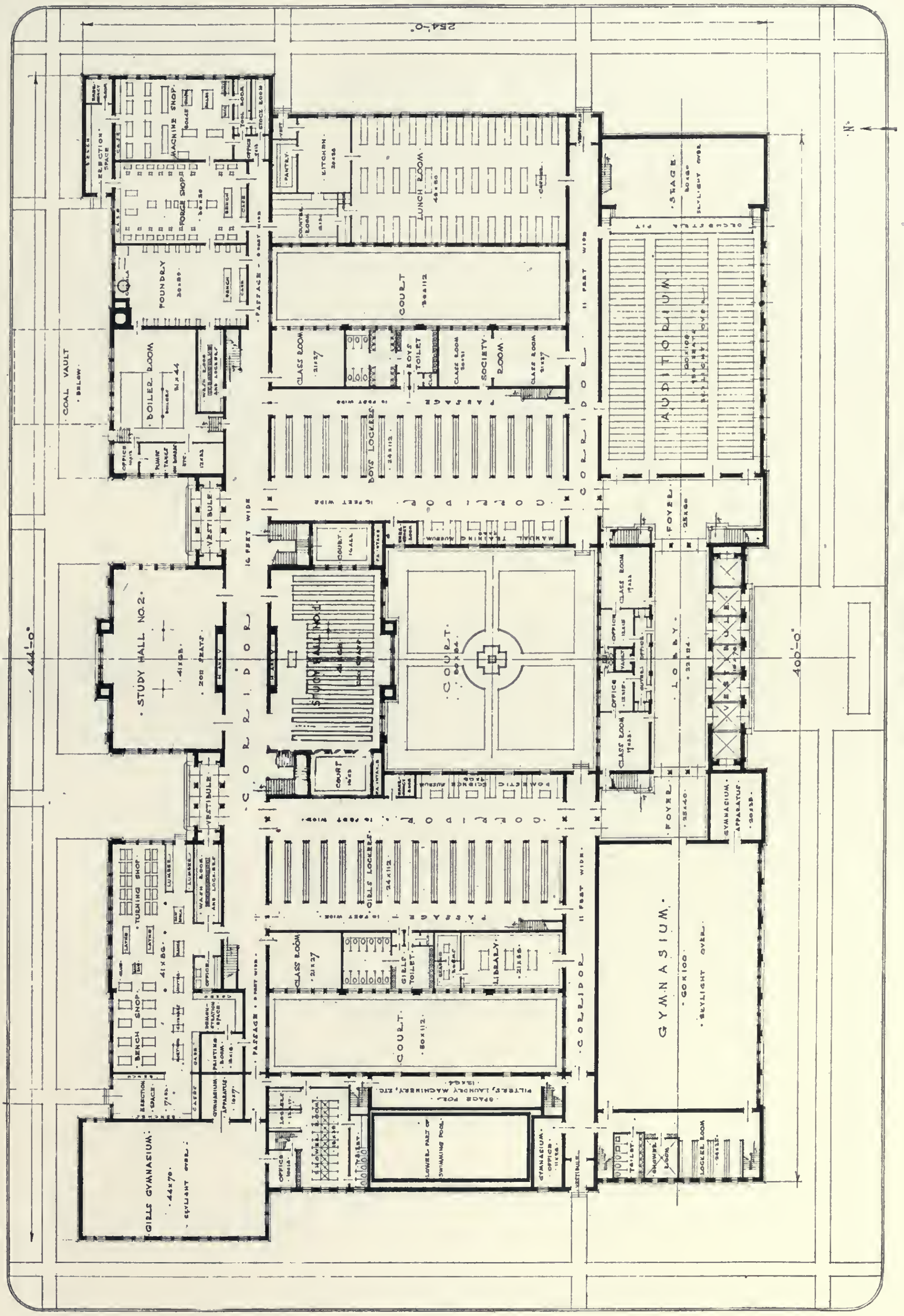

GIRLS GYMNASIUM
NATATORIUM
BOYS GYMNASIUM
APPARATUS
LOBBY
VESTIBULE
SEATS
STUDY HALL
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CORRIDOR
SOCIAL HALL
CORRIDOR
ELEMENTARY SCIENCE
STORE ROOM
GEN. OFFICE
BOARD RM.
PRINCIPAL
VAULT
CLERKS
STUDY HALL
LUNCH ROOM
STAGE
AUDITORIUM
VESTIBULE
THIS PORTION THREE STORIES HIGH - CLASS ROOMS ABOVE - FORTY CLASS ROOMS IN ALL.
FIRST FLOOR
PLAN No 3
AN ILLINOIS HIGH SCHOOL
PERKINS FELLOWS AND HAMILTON ARCHITECTS

FIRST FLOOR PLAN, AN ILLINOIS HIGH SCHOOL.

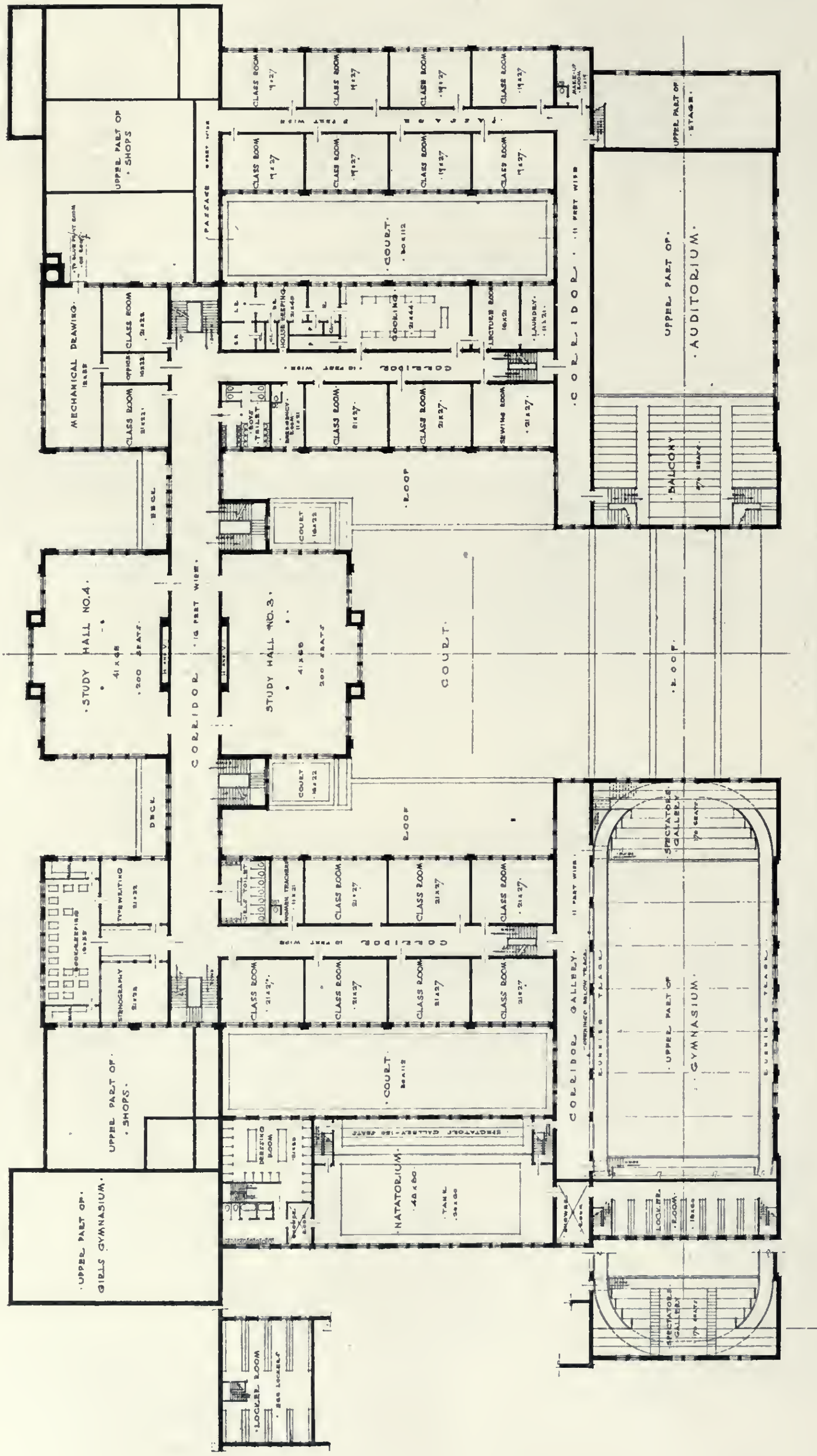
UNIV. OF CALIFORNIA



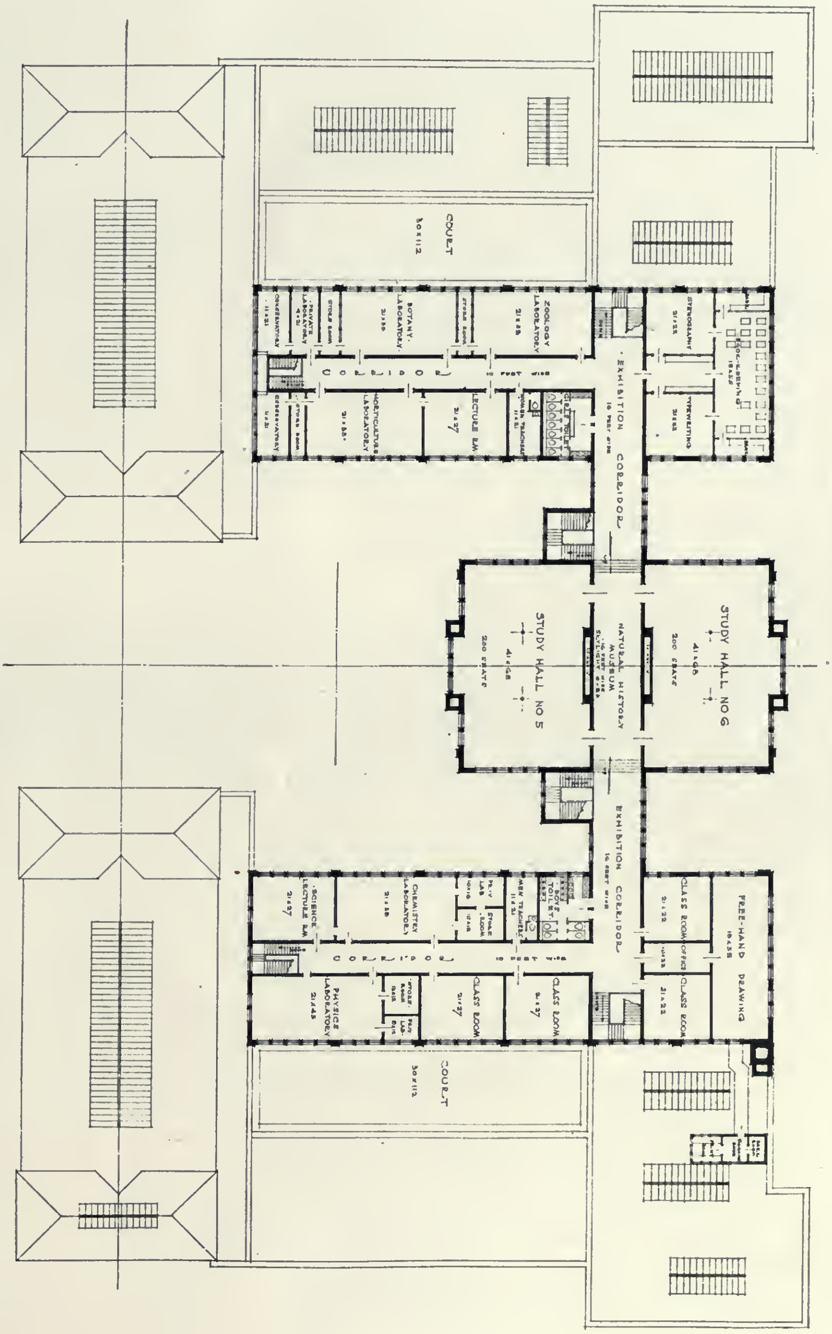
A MICHIGAN HIGH SCHOOL.
Perkins, Fellows and Hamilton, Architects, Chicago, Ill.


254'-0"
444'-0"
400'-0"
N
STAGE
ORCHESTRA PIT
AUDITORIUM
CORRIDOR 11 FEET WIDE
LUNCH ROOM 42x80
KITCHEN
PANTRY
COURT 30x112
CLASS ROOM 21x27
BOYS TOILET
CLASS ROOM
SOCIETY ROOM
PASSAGE 10 FEET WIDE
BOYS LOCKERS 24x112
CORRIDOR 16 FEET WIDE
MANUAL TRAINING MUSEUM
COURT
COURT 80x84
STUDY HALL NO. 1
STUDY HALL NO. 2
202 SEATS
VESTIBULE
CORRIDOR
FOYER 25x60
LOBBY
CLASS ROOM
OFFICE
DOMESTIC SCIENCE MUSEUM
GIRLS LOCKERS 24x112
CLASS ROOM 21x27
GIRLS TOILET
LIBRARY
COURT 30x112
GYMNASIUM 60x100 SKYLIGHT OVER
GYMNASIUM APPARATUS
LOCKER ROOM
SHOWER ROOM
TOILET
VESTIBULE
GYMNASIUM OFFICE
LOWER PART OF SWIMMING POOL
SPACE FOR FILTERS, LAUNDRY MACHINERY, ETC.
GIRLS GYMNASIUM 44x70 SKYLIGHT OVER
ERECTION SPACE
BENCH SHOP
TURNING SHOP
WASH ROOM AND LOCKERS
PASSAGE
FORGE SHOP
MACHINE SHOP
FOUNDRY
BOILER ROOM
COAL VAULT BELOW
STOCK ROOM
TOOL ROOM

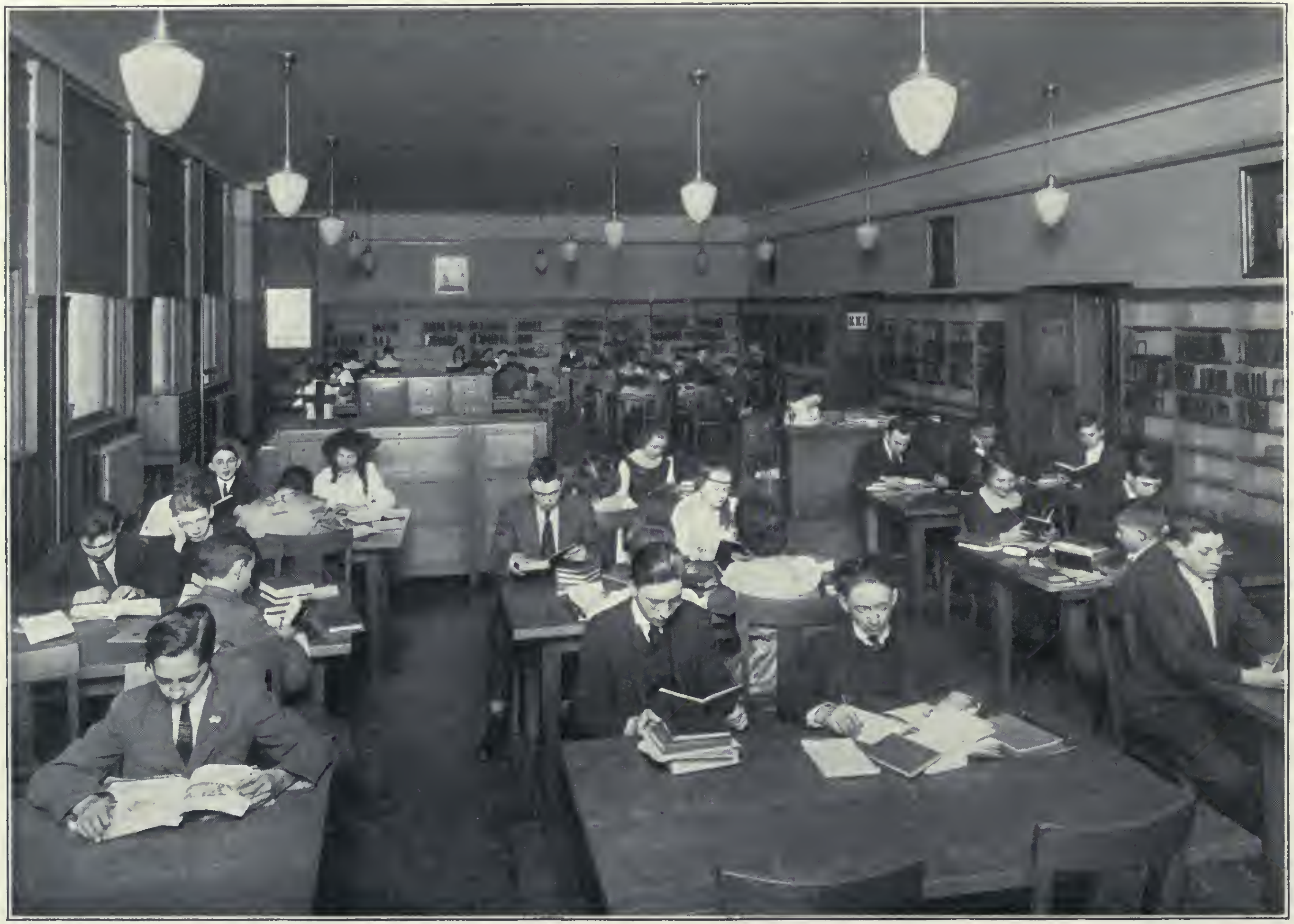
FIRST FLOOR PLAN, A MICHIGAN HIGH SCHOOL.


UPPER PART OF SHOPS
PASSAGE
CLASS ROOM 19×27
MAKE-UP ROOM
UPPER PART OF STAGE
COURT 30×112
CORRIDOR 11 FEET WIDE
UPPER PART OF AUDITORIUM
MECHANICAL DRAWING
CLASS ROOM 21×22
OFFICE
HOUSE KEEPING
COOKING 21×44
LECTURE ROOM
LAUNDRY
CORRIDOR 10 FEET WIDE
BOYS TOILET
EMERGENCY ROOM
CLASS ROOM 21×27
SEWING ROOM
BALCONY
ROOF
DECK
COURT 16×22
STUDY HALL NO. 4 41×68 200 SEATS
CORRIDOR 16 FEET WIDE
STUDY HALL NO. 3 41×68 200 SEATS
COURT
GIRLS TOILET
WOMEN TEACHERS
TYPEWRITING 21×22
BOOKKEEPING
STENOGRAPHY 21×22
CORRIDOR GALLERY
SPECTATORS GALLERY
RUNNING TRACK
UPPER PART OF GYMNASIUM
DRESSING ROOM
SPECTATORS GALLERY 150 SEATS
NATATORIUM 40×80
TANK
SHOWER ROOM
LOCKER ROOM
UPPER PART OF GIRLS GYMNASIUM
LOCKER ROOM

SECOND FLOOR PLAN, A MICHIGAN HIGH SCHOOL.


COURT
30x112
STUDY HALL NO 6
200 SEATS
STUDY HALL NO 5
200 SEATS
NATURAL HISTORY MUSEUM
EXHIBITION CORRIDOR
16 FEET WIDE
CORRIDOR
10 FEET WIDE
ZOOLOGY LABORATORY
BOTANY LABORATORY
HORTICULTURE LABORATORY
LECTURE RM
STENOGRAPHY
TYPEWRITING
BOOK-KEEPING
CHEMISTRY LABORATORY
PHYSICS LABORATORY
SCIENCE LECTURE RM
CLASS ROOM
CLASS ROOM
OFFICE
FREE-HAND DRAWING
COURT
30x112

THIRD FLOOR PLAN, A MICHIGAN HIGH SCHOOL.



LIBRARY, SCHENLEY HIGH SCHOOL, PITTSBURGH, PA.

THE HIGH-SCHOOL LIBRARY

THE DEPARTMENT AND ITS EQUIPMENT

Irene Warren, Chicago, Ill.

Until very recent years, any collection of books set up on shelves was referred to as a library. The mere spacing of walls so as to contain the shelving was deemed sufficient architectural planning, and the only prerequisite for librarianship was a fair degree of intelligence.

The public libraries of America testify to the great changes wrought since the year 1876 when a small group of men and women met at the Centennial in Philadelphia to discuss how the public library could be made a more effective educational agency in the community. In contradistinction to the old methods, the buildings are now planned to facilitate the many kinds of service public libraries render, the collections of books are thoughtfully chosen and are scientifically arranged to meet the public's needs, and the staff of highly trained librarians further serves the public by keeping in touch with the scientific, artistic, commercial, and social activities of the community.

A small number of high-school principals, within the last few years, have begun to see the inadequacy of scattered collections of books (for high schools have always owned books) and have been bringing them out of attic and basement rooms, ends of corridors, offices, and classrooms, and have tried to organize them into central collections with some one person in charge. The results have not been satisfactory in most cases because often the person placed in charge has been without special library training and the collections have been unskillfully chosen. Another and perhaps less obvious reason for failure is the fact that the schools have copied their library equipment and methods of administration from the nearest model, usually a public library or perchance a college library, without a realization of the fundamental differences underlying the purposes of these different types of libraries. This has been a great handicap to success. The small, good-looking reading rooms that they fitted up did not and could not function. None of the schoolmen have been willing to give adequate space or sufficient funds for books and librarians and to work out a plan whereby pupils could actually get the use out of the books. The brevity of this paper permits only the statement of the fact that the schoolmen as yet have not given the school libraries much consideration without going into the reasons for the situation. But an attempt will be made to show that the excellent educational methods advocated for our high schools today, cannot be carried out successfully without the help of a well organized and efficiently administered library adapted to the particular needs of the high schools. The points made here, taken partly from the practices of different high schools scattered across this continent and partly from the tendencies in education today that should affect our problem, it is hoped, will stimulate educators to start constructive measures along this line and will convince architects that plans for school libraries should be made before the buildings are erected.

Theoretically, many educators believe that the school library should be in active relations with all the pupils and all the departments of the school. There is no subject in the high-school curriculum but has its body of literature. A subject without an intellectual content has no place on the curriculum. Some departments to be sure, are much more dependent upon literature than others. Practically then, our problem is to advise a plan whereby the literature of every subject in the curriculum is readily available to every pupil and every teacher.

It would seem logical to expect that the first two points to be considered in locating the library in the high-school building are (1) that the library should occupy a central location in the building and (2) that such departments as English, history, civics, and others that use it most frequently should be grouped about it. This is not however in accordance with the usual practice.

Further details of the location depend upon the purpose determined that the library shall serve. Some educators believe that the high-school library should serve only high-school pupils and teachers, and that the various private and public libraries should take care of the rest of the book needs of the community. There is another group of educators, and this includes a number of prominent librarians, who think that the school library should be a branch of the public library and serve not only the school, but the community at large. Advocates of the wider use of the school plant will doubtless see much in favor of this plan. This does not preclude intensive work with each department of the school, but it generally means that the library must be placed where it can be operated after school hours without lighting or heating the whole school and where the general public can be most conveniently served. Rooms on the first floor, with one outside entrance and one leading into the school corridor are best adapted to this plan. That library will obtain the most desirable results, that makes its activities follow most closely the policy of the school, whether this includes night school, junior high school, junior college, or the community at large. The policy of the school should determine not only the place of the library in the building, but also the seating capacity necessary, the size and character of the collection of books, other material needed, and the kind of administration required. Whatever use is made of the school and the school library for community purposes, it should be clear that the school library must always be equipped and run so that it will serve first of all the pupils as pupils, and the community features must be kept sufficiently separate and distinct so as not to interfere with this primary use.

In considering the size and the place of the school library it should be remembered that the library is more closely related to the study and study periods of the pupils than to any other phase of the school work. The teachers using the textbook as a guide only, require pupils to read many other references and examine pictures, slides, museum specimens, and other so-called "visualizing material." This material should be placed in the library because it will receive much wider use there, and also because many departments have collected much more material than their teachers, untrained in the scientific arrangement of materials, can readily manage in the department classrooms. A prop-

LIBRARY, TRENTON JUNIOR HIGH SCHOOL, TRENTON, N. J.

LIBRARY, GROVER CLEVELAND HIGH SCHOOL, ST. LOUIS, MO.

erly organized and equipped library, with reference materials at hand affords the best study-room for pupils.

A little thought convinces us of the absurdity of study in barren assembly halls and classrooms, apart from the material we require pupils to use. That also entails excusing pupils for trips to the library in search of references that should be at hand. If the library and study room cannot be combined in one, place the library adjoining the study room so that pupils may pass freely from one to the other.

The library should be regarded as a department in the school on the same basis as the other departments. One room seating 25 pupils in a high school of eighteen hundred or two thousand pupils is wholly inadequate. It requires a suite of rooms—a reading room, a classroom, and a work room. Determine the space allotted to the library department by the

1. Number of pupils in the school.
2. Number of pupils studying at any given period.
3. Type of service the library is to give.
4. Physical equipment necessary.

One librarian cannot look after more than 125 pupils to advantage at one time. In a room where there are more pupils than this, the accumulated noise incidental to the business of the place interferes with quiet study and the librarian who must maintain order in an overcrowded room, has no time for real work as study assistant. These facts should limit the size of the reading room. If more space for reading room purposes is needed, as it should be in the larger high schools, plan reading rooms adjoining each other, with glass partitions and doors leading from one to the other so that the collections of one room may be readily accessible to the others. In our largest high schools four such rooms would probably be necessary—two for the large freshman class, one for the sophomores, and one for the juniors and seniors. The combination of library and study-rooms might not, however, require a larger building, but only an adjustment of space and study periods. If principals think facilities for instituting this plan thruout the four-year course are not favorable, they are advised to make the beginning in the freshman year in the hope that the improved methods of study will keep the children in school at least during the first year and perhaps give them the impetus and methods that will make them continue to the end of the course.

Outdoor reading rooms may be added to advantage in such climates as will permit their use for any large proportion of the year. Even if this is but an outdoor balcony or a small closed court, it will add charm and comfort. For the anaemic and nervous children, it will be a help in restoring health.

The details of equipping a high-school library will be discussed in a later paper, but in determining the size of the reading room it may be well to call to mind the larger pieces of furniture such as .

Reading tables or desk.
Chairs or seats.
Loan desk.
Shelving.
Catalog case.
Magazine rack.
Bulletin boards.
Case for over-size books.
Display rack for new books.
Cabinet for picture collection.
Cabinet for lantern slides.
Map cases.
Museum cases.
Phonograph and cabinet for records.

Lighting is an extremely important problem in the reading room. The windows should be so arranged that the light will fall over the reader's left shoulder and that the glare of the sun will not fall on the open books. Some librarians prefer large windows placed high in the walls, shutting out street attractions and giving more wall space for shelving. If the windows are placed low in the walls, awnings or hoods to the windows, vine-covered pergolas and lattices may help to soften the light, shut out distracting sights, and add to the attractiveness and comfort of the room. Even if the room is used only for daytime purposes, artificial light should be provided, both gas and electric if possible. A dark day or a dark hour is very upsetting to a room full of young people. If the room is to be used in the evening a good indirect lighting system should be installed.

Every librarian knows well that Morpheus is specially apt to tempt people when they sit down for meditation or study in a quiet room. Stagnant air and high temperature increase this trouble. A library is with difficulty kept free from dust and dirt, and it is impossible to keep the air fresh when it is constantly filled with people, unless special attention is given to the ventilating system.

Confusion and congestion otherwise necessary in the reading-room may be relieved by providing the librarian with a work-room where books may be unpacked, sorted, mended, and prepared for the shelves and where books not in commission for one reason or another may be stored. A considerable number of supplies must always be kept on hand. All this requires cupboards tables, writing desks and plenty of shelving. Every high school librarian must spend much of her time during school hours at the charging desk and leave the other work for odd moments. If the work-room adjoins the reading room and the charging desk is set into the glass partition separating the two rooms, it will save the librarian's time and energy. Place the charging desk where she may command a view of the entrance and at the same time supervise the reading room. A window closing down on the charging desk will shut out the noises of the work room, the use of the typewriter and unpacking books, noises very disturbing to readers. Window shades or hanging curtains may be so placed on the glass partitions so as to hide unsightly parts of the work-room from time to time. Running water in the work room is a necessity because the librarian needs it often in mending books, mounting various kinds of material, and also because the dirt in the books makes it necessary for her to wash her hands very frequently.

Equip the classroom not only for training students to use books and libraries (and every high school needs a course of instruction in this line as much as it does in history, domestic science or any other subject) but equip it so that the teacher in any subject who wishes to use a large amount of material may take a class there for a lesson. It should therefore be large enough to seat any class in the school, be supplied with tables and cases adapted to the exhibition and examination of material, should have a screen for the lantern and a phonograph for the use of language and music records. Provide some museum cases for special material. Carefully prepared exhibits should be made up from time to time to illustrate the classroom work and these should be kept in this room. To avoid noise and confusion have three entrances for the classroom, joining it with the reading room

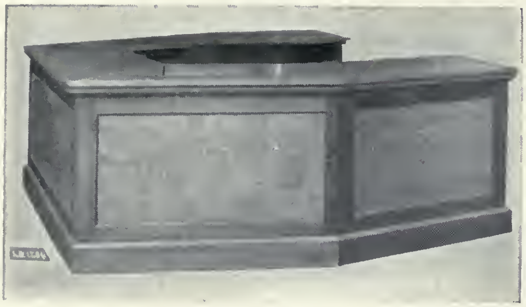
LIBRARY, HIGH SCHOOL, YPSILANTI, MICH.

and the librarian's work room. Use the third door leading into the corridor only in receiving and dismissing classes.

Many poorly equipped libraries have succeeded in doing some excellent work in spite of their poor equipment. Had they had the advantages of proper location in the building, adequate space and equipment, and been operated under scientific management, in place of the "do-anything-you-can-method," many of their efforts might have produced permanent instead of temporary results and laid the basis for expansion and intensified development. "The waste in work not done, or done with the wrong method, is a serious economic waste."

Not so many years ago each teacher was expected to do everything except janitor service—and some even did that. Now we have specialization in teaching, and with it has come the assignment of school libraries to trained librarians who stand ready to co-operate with both student and teaching forces. Before this it was customary to have teachers or principals' clerks give the library such care as they could when not engaged in the regular duties for which they were employed and the practice continues in many high schools today. The librarians who have gone into high schools have worked against odds because there is no equipment on the market specially adapted to their needs and the pressure of daily demands in the school has forced them to accept whatever equipment the school chanced to have or would provide without delay, or whatever they themselves could find that would serve. Satisfactory results cannot be hoped for until a detailed study has been made of the particular needs of the high school library and an equipment planned to meet these needs in much the same manner that special equipment has been worked out for science laboratories and for the courses in domestic science, art, manual training, and bookkeeping.

This brief paper can state only a few of the important questions involved in equipping a high school library, give some of the best plans and devices in practice at the present time and



Paneled Front of Wing-type Charging Desk.

suggest some of the problems that most need our attention. If we can standardize the work of our high school libraries even a very little more in some lines, we can secure at a fair price from the supply houses many needed articles which when manufactured for the individual institution are prohibitive both in cost and time spent in designing and constructing.

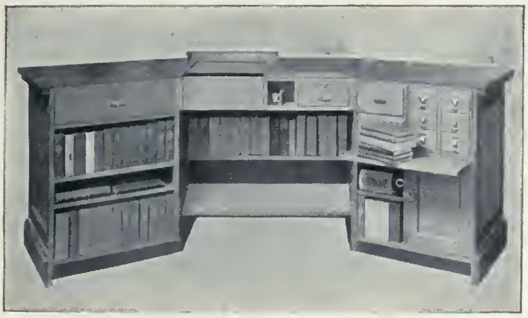
We have two prime factors to consider in establishing a high-school library—the pupils and the books. The books have but one purpose in the school and that is to serve the needs of the pupils. Therefore one of the first questions we must settle is that of the seating arrangements for the pupils in relation to ease in using books. There are four methods in practice at the present time.

1. Seating at standard library tables.
2. Seating at one side of slightly sloping narrow tables.
3. Seating at regular school desks.
4. Seating in assembly chairs (usually when books are kept in an assembly room used for study purposes) or in chairs provided with writing arms.

Unit Wood Shelving built in sections 3 ft. wide, 4 ft. 6 in. and 6 ft. 10 in. heights, single or double faced, with shelves 8, 10, or 12 in. deep.

The desired atmosphere of a library is more easily maintained if library tables are used. These should not seat more than eight or ten pupils. If they are larger the librarian has difficulty in getting around them quickly as she often needs to do. The best narrow sloping tables on the market seat but two pupils. It would be better if they were long enough to seat three or four and thus save aisle space. These narrow tables permit all pupils to have the lighting from the best direction and give a room which is much more easily supervised because all pupils necessarily face in the same direction and have no temptation to communicate with those opposite. Assembly chairs are not adapted to study or reading purposes as is readily seen without explanation. The armchair does not furnish enough space for the pupil who, most of the time must spread out his work, draw maps, charts, or illustrations, or compare several books. It is, however, a good plan to have a few arm chairs in any library to take care of the irregular pupils, to provide additional seating in rush times and to allow restless pupils to shift

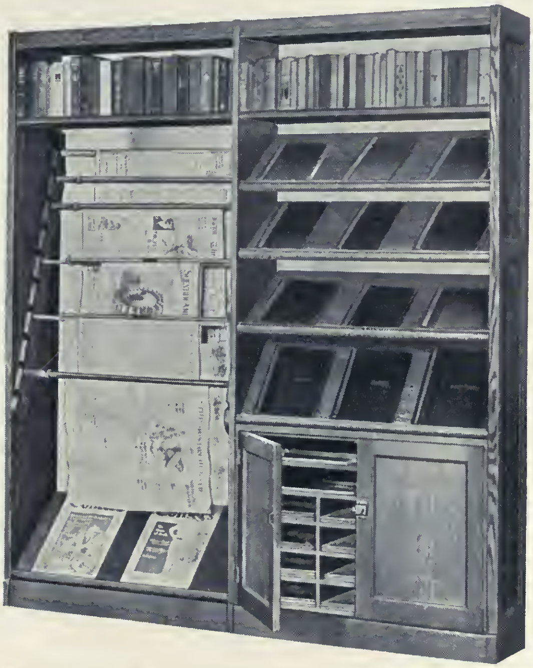
A Magazine Rack with drawers for storing pamphlets and pictures.



Charging Desk fitted with sunken charging trays, covered by roller curtain, cash drawer, registration trays, book shelving, drawers and cupboards for miscellaneous uses.

their positions. Even if pupils are provided with plenty of locker space they must often carry considerable material about with them when they study. It would be advantageous if chairs or tables could be designed which provided racks where pupils might deposit books and papers when not in actual use.

It is without doubt possible that if an educational psychologist would turn his attention to the conditions under which students study and read to the best advantage, his conclusions would supply the basis for designs for more suitable furniture than we now have and for a more satisfactory arrangement of our reading and study rooms. Until such a time as this investigation is made, librarians must content themselves with the experience gained by as careful observation as they may be able to give when not pushed too hard by daily routine.



Magazine and Newspaper Racks composed of two 3 ft. units with storage cupboard, sloping shelves, newspaper racks and files.

Shelving may be arranged in one of two ways, around the walls or in stacks. The wall shelving makes a more attractive room and one easily supervised. If the shelves are grouped in stacks they should be placed at one end of the reading room near the librarian's desk so that she may quickly get the books wanted. The alcove arrangement of shelving is not adapted to a high school, because the wide secluded spaces between the rows of shelves tempt forbidden action and conversation.

Wooden shelves are preferable to steel in a small room. There is an excellent wood shelving on the market that may be bought in sections. Shelving should never be higher than the average pupils can easily reach—probably seven tiers in all. The length of shelves between uprights should not be more than three feet or the shelving will sag. The shelves should be plain in design and adjustable. There are a number of pegs and devices for sale to be used in constructing adjustable shelves. Shelving made in units has the advantage also of being moved from place to place more easily than that which is permanently built in. It is, of course, possible for an architect to construct shelving according to the measurements here given but it is rarely as well constructed as that which may be purchased from the best supply houses.

As was suggested in the previous paper, the charging desk should be placed near the entrance so that the librarian may readily see who comes in and goes out. Pupils who wish merely to borrow or return books or ask for information at the charging desk may then do so with the least possible disturbance to the readers. There are stock charging desks on the market but usually the high school librarian prefers to design one specially adapted to her individual needs. If this desk is set, as has been advised, in a glass partition separating the reading room from the librarian's work-room, it is in the most convenient location. The counter portion of the charging desk should be about two feet in width and eight feet in length. When the rush hours come, several people may then assist in charging and discharging the books, and have sufficient room so that material will not be falling on the floor. Avoid sharp corners on the counter. Under the counter, there should be drawers for

A combination of typical sections for card indexes, pamphlet cases, slide cabinets, picture boxes and sliding shelves for large books.

the supplies needed for the charging of books and shelves on which to place the books returned. A slightly raised platform for the librarian gives her a better chance to supervise the room.

All devices for noise prevention are desirable. A cork carpet, while somewhat expensive, wears well and is the only satisfactory floor covering as far as preventing noise is concerned. Swing the doors one way and furnish them with springs that will close the doors quickly and noiselessly.

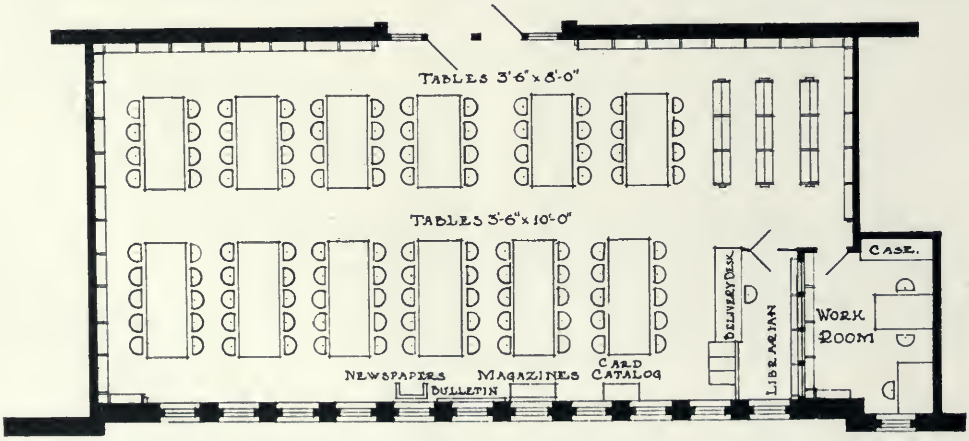
Every modern high school subscribes to current magazines. A stock magazine rack is illustrated here, and one provides drawers for the back numbers until such a time as the magazines are bound. A similar rack may be used for railroad folders, advertising material and other ephemeral pamphlets used by the classes.

Low, extra-deep shelving provided with rollers is the best for the very large atlases and art books so that they may lie flat. Sometimes the bottom shelf of the regular shelving is made extra wide and high or one whole section is built for over-size books.

A Vertical File Section for storing pictures, etc.

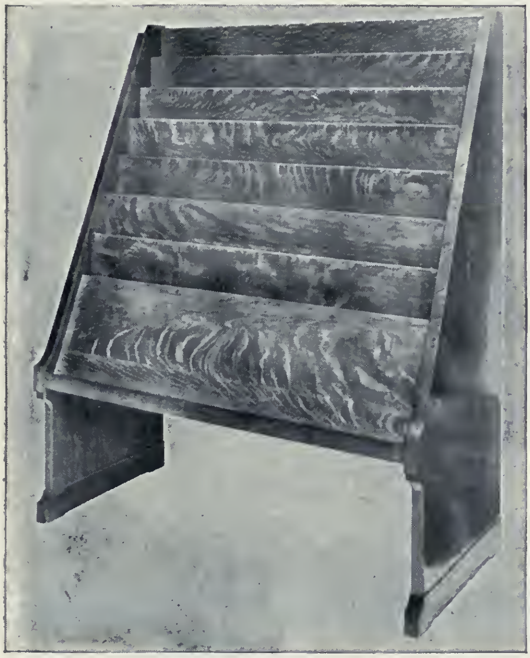
Shelving, specially designed for exhibiting books, should be placed at the front of the room for new books and special exhibits, in order to attract the attention of all who enter the room and also to keep noise and disorder near the door.

Place all lists of books which the teachers assign the pupils to read in the library where the pupils may easily refer to them when they wish to read the books. Bulletin boards for this purpose should be erected and the space allotted to each department should be in constant use. The best bulletin boards are made of cork, and



Plan of Furniture for High School Library, Spokane, Wash.

framed with a narrow moulding corresponding to the woodwork in the room. If covered with celluloid or glass the papers may be kept cleaner and in better order. A small blackboard built in the wall is a great convenience when it is necessary to give notices to all pupils in the room in a short time.


A good type of Newspaper and Magazine Rack.

The card catalog case should be purchased from some reliable supply house, for if the cards do not fit rightly in the drawers, their edges soon wear rough, the cards are torn, and the catalog must be rewritten. Other pieces of furniture may be built by the local carpenter or the manual training department, but the catalog case demands too careful measurements to make it worth while to construct it outside of a factory built for that purpose.

It is as important to have the pictures and lantern slides kept in a central organized collection as it is to have the books and for the same reasons. A vertical filing cabinet, similar to that used for filing correspondence is the neatest and most convenient way of keeping the pictures and a cabinet resembling a card catalog case is the best one for the lantern slides.

Have one or more museum cases in the library where special teachers may place materials referred to so that pupils may study the specimens when they are reading about the material in the books. Distribute other museum cases about the corridors. Drawers and cupboards should be provided in the store room for specimens not on exhibition.

Tint the unoccupied wall space which may be seen above the book shelves and bulletin boards some restful soft brown or grey color. It will serve as a good background for pictures, statuary and flowers. The art classes can help in making the library attractive not only by providing mural decorations but also by designing and lettering bulletin boards, special notices and like small things.

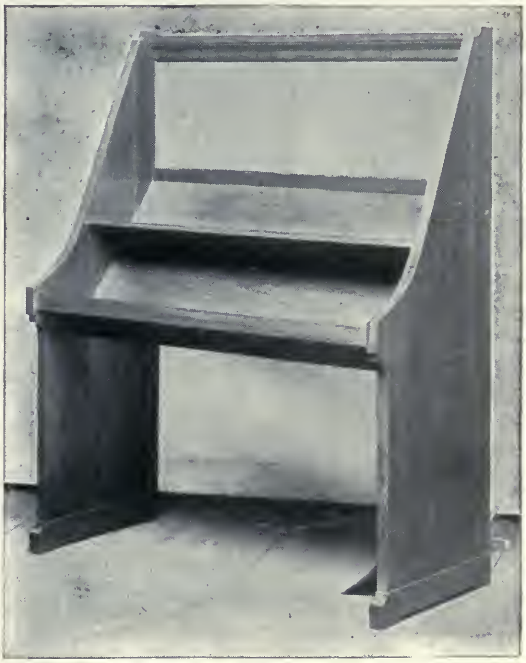
Plans for high school libraries and their equipment may be secured from the following sources:

Chairman of the High School Committee of the Library Section of the National Education Association.

Librarian of the U. S. Bureau of Education, Washington, D. C.

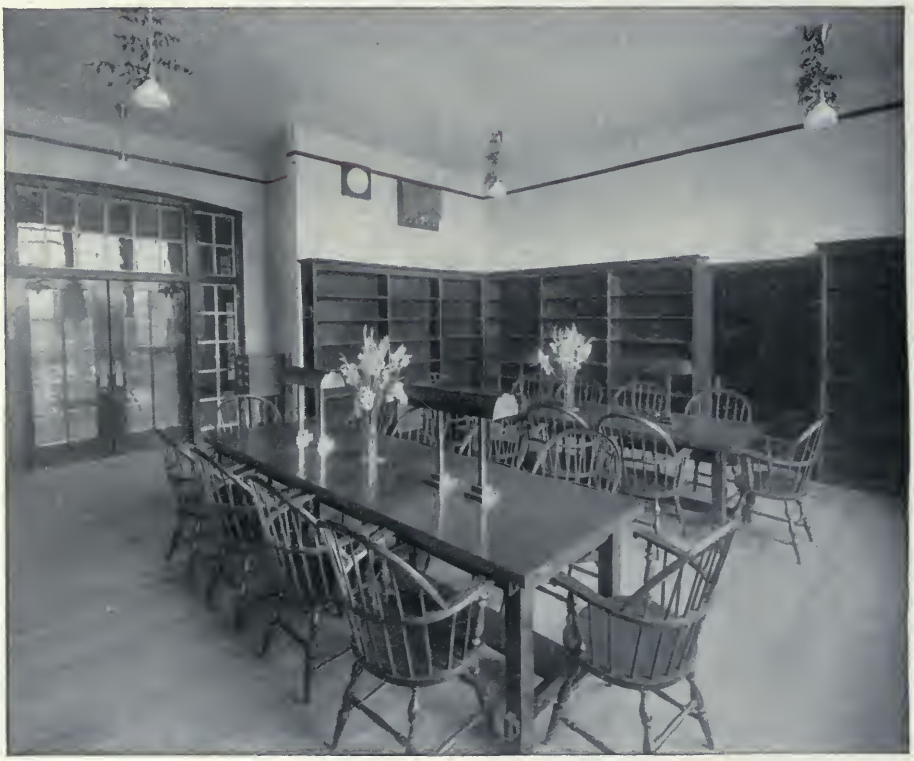
Secretary of the American Library Association, 78 East Washington St., Chicago.

The secretaries of the State Library Commissions (located at the capital of the state) can


A good type of Rack for New Books. Top panel is used for Bulletins and Book Lists.

always give information about where help in this line can be given for a particular state. Many valuable suggestions may be gained by consulting the recent numbers of the Library Journal, Public Libraries, the English Journal, and the Proceedings of the National Education Association.

Note.—For the use of photographs and plates illustrating this article we are indebted to the Library Bureau, Boston, and the Globe-Wernicke Co., Cincinnati.



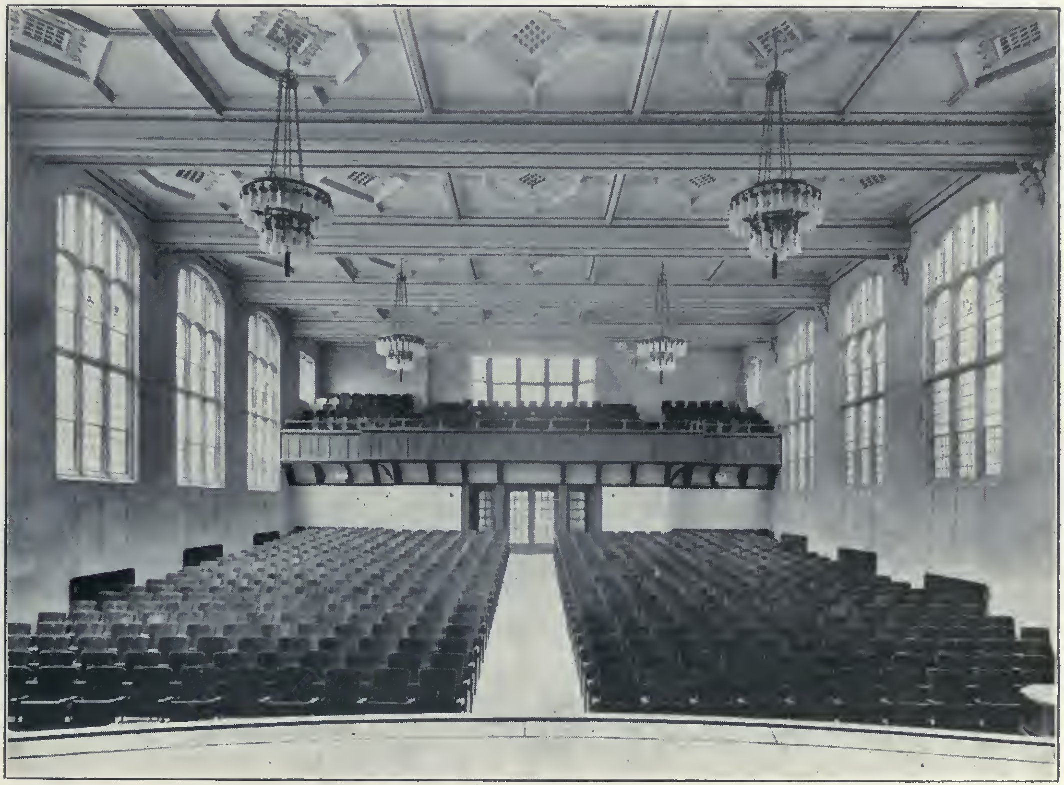
LIBRARY OF THE McCLAIN HIGH SCHOOL, GREENFIELD, O.

Wm. B. Ittner, Architect, St. Louis, Mo.

ASSEMBLY HALLS

JAMES O. BETELLE

Illustrations taken from the work of E. F. Guilbert and Guilbert & Betelle, Architects



AUDITORIUM, NEWARK STATE NORMAL SCHOOL, NEWARK, N. J.
Rear View Showing Gallery. Size 54x75 Feet. Capacity 757.

It is generally agreed that the assembly hall has become a necessary part of the modern school building. We shall accordingly not argue for its existence, but rather discuss its betterment in general appearance, seating accommodations, stage arrangements, lighting, acoustics, and other important elements. At the same time we shall avoid recommending any extravagances or unnecessary costs.

School assembly halls must fulfill requirements that were not thought of a few years ago. When provided with a good stage, assembly halls not only are used for ordinary school exercises, but afford the pupils the opportunity of presenting plays and permit the public to enjoy evening lectures, etc. In the much discussed wider use of the schoolhouse these rooms are most commonly employed and are frequently opened to civic and social organizations.

It has been conspicuous not only to principals and teachers, but to the parents that the modern assembly room of the well-designed and well-furnished school building is noticeably agreeable to the pupils, and is often the subject of comparisons with the older buildings they are familiar with. When a little effort is spent on the appearance of the assembly halls these rooms have been especially complimented by the pupils and the public.

One of the greatest differences between the old and the new school assembly halls is their position with relation to the general structure.

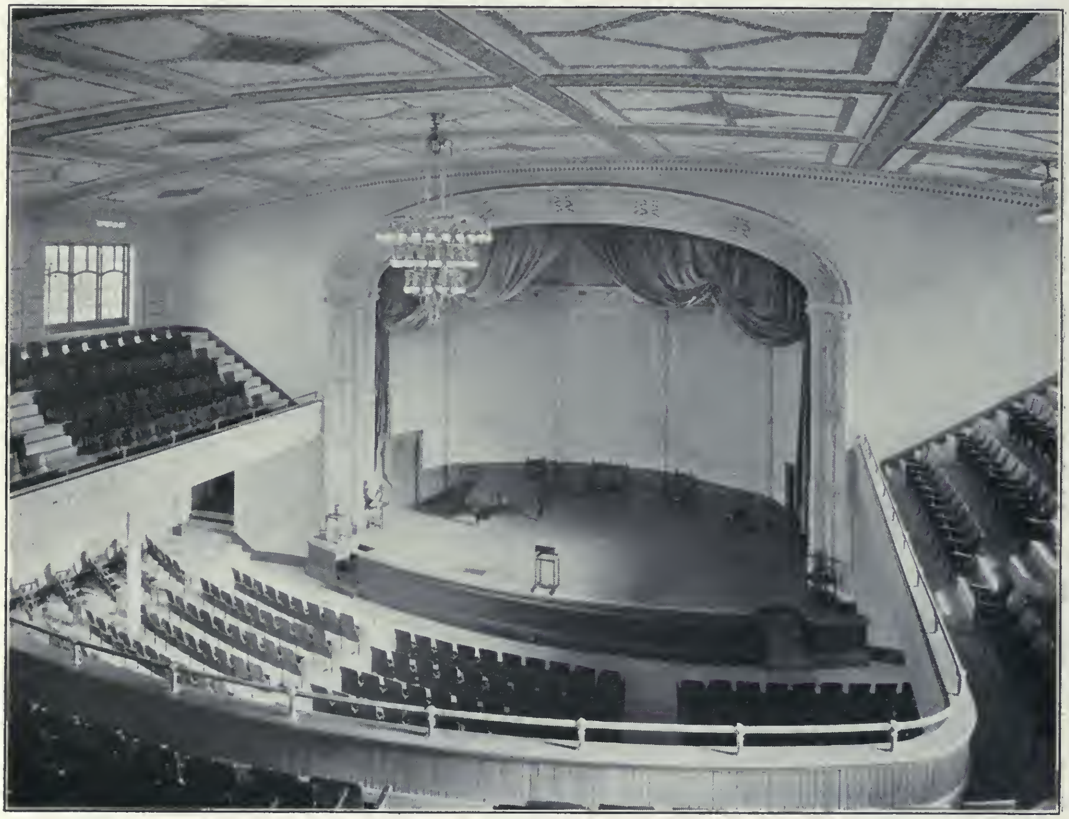
In years past it was usual to build the assembly room in the upper story or roof where apparently it could be placed with the least cost. Not infrequently the room was provided with very poor exit accommodations.

The modern auditorium is always near the ground; sometimes it is as low as the basement floor; it is never above the second floor, but in more than seventy per cent of the newest buildings it is placed on the first floor. Great attention is given to exits, and the advantage of their being at grade level is obvious.

The best service of an auditorium to the school can be secured by placing it in the central portion of the building rather than at one of the extremities. In size, it should accommodate the entire student capacity of a high school; in grammar schools it will meet all requirements if it cares for fifty per cent of the pupils at one time. Large buildings which take the form of a hollow square are frequently arranged with the auditorium in the heart of the structure, entirely surrounded by corridors and classrooms. The auditorium is here lighted from above or from large courts on either side.

It is important that auditorium seating be arranged so that every seat has an unobstructed view of the stage. This necessitates the careful working out of sight lines to determine the slope of the floor, the height of the gallery (if any), and its slope.

The seating capacity of an auditorium may be determined very closely by taking the area of the room in square feet, including the gallery if there is one, but excluding the stage and dividing by 6½—the number of square feet allowed for each person. The result will be very nearly the exact seating capacity of the room including space for the aisles. The seats should be spaced at least 30 inches, back to back, and 32 inches is more comfortable. The width of the seats from arm to arm should be not less than nineteen inches; seats twenty inches wide are more desirable if the space can be afforded.



AUDITORIUM, SOUTH SIDE HIGH SCHOOL, NEWARK, N. J.
Size 62 feet by 75 feet. Seating capacity including gallery 1275

The width and spacing of the aisles are governed in the larger cities by the local building ordinances; they are the same that apply to theaters. The best practice seems to require that the aisle with seats on both sides be at least 3 ft. 0 in. wide at its narrowest part, and that it increase in width toward the rear of the room at the rate of 1½ inches for every five feet of length. The various building laws seem uniform in the requirement that no seat should have more than seven intervening seats between it and the nearest aisle. This practice does not permit of more than fifteen continuous seats in a row when there is an aisle on both sides, or more than eight seats in a row when there is an aisle only on one side.

When the seat aisles have been well arranged, it is not necessary to raise the stage high above the audience floor in order to place the entire stage in good view. A comparatively low stage overcomes the awkwardness of necessitating the front rows to look directly at the feet of the speaker and to hold their heads at an unpleasant angle to see his face. This defect is conspicuously apparent in platforms of many old school auditoriums in which the stage is nearly four feet high. A height of 2 ft. 6 in. is quite sufficient if the auditorium floor is properly designed.

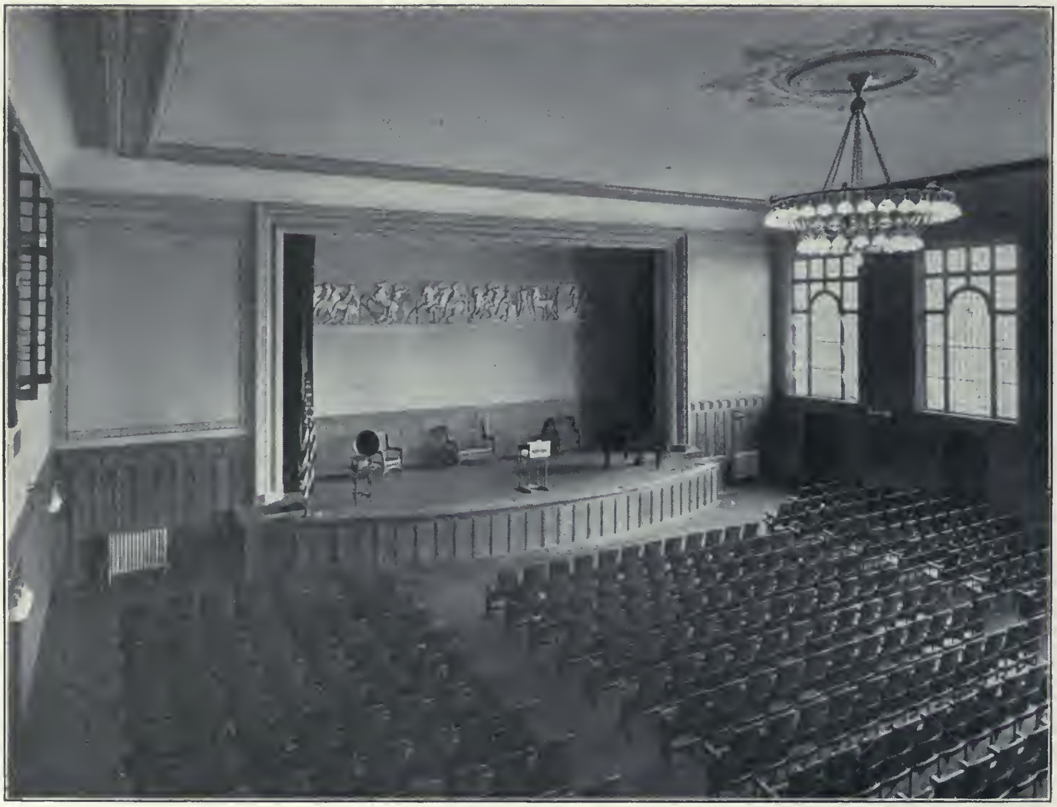
It is, of course, desirable to provide a large stage whenever practicable as there are occasions, particularly at graduation, when a large number of persons should be on the stage in full view of the audience. However, stages sufficient to meet these requirements if forced upon the plan, sometimes involve great expense or the sacrifice of other desirable features of the plan, and many educators argue that a small stage which meets the needs of the 99 occasions out of the possible one hundred, is quite acceptable. For commencement or a similar exceptional occasion, the graduates may occupy the foremost rows on the main floor.

AUDITORIUM, GARFIELD SCHOOL, NEWARK, N. J.

From point of appearance, the reasonably small stage is more desirable than very large one. An anteroom on either side should be connected with both the stage and the corridor. Sometimes the plan so provides that but one anteroom may have corridor connection. Such an arrangement is most awkward, particularly when it forces a speaker to walk down the aisle of the room filled with people, to disappear into the anteroom and to reappear from there on the stage. Such an arrangement is also very unsatisfactory when the pupils produce a play.

Except in the very largest and most elaborate buildings, very few school stages are built with a view of using drops, flies, wings or elaborate scenery. As soon as elaborate scenery is used, structural complications and expense begin to multiply as the building then comes into the theater class. On account of the increased dangers, theater buildings are required to have elaborate precautions against fire and smoke. These include such arrangements as a skylight over the stage, a water tank on the roof, a sprinkler system, etc. The cost in such cases becomes prohibitive when the few advantages gained are considered.

A stage curtain, however, is usually installed and should be given very serious consideration from a decorative standpoint, as it is one of the principal decorative features of the room and is in full view of the audience when closed. On account of the wide opening of the proscenium arch, most curtains are divided in the center and each half is drawn to one side. To attempt to operate the curtain up and down on a wood or metal roller is practically an impossibility, when the length, thickness and weight of the roller, which would have to be raised, is considered. The best material to use for the curtain is velour, of a brown, old gold, or blue color. To relieve the large expanse of plain material, the curtain should be decorated with bands and borders of silver or gilt galloons, worked out in ornamental design. To make the curtain hang better and to weight it at the bottom, a border of heavy fringe and tassels is often used.

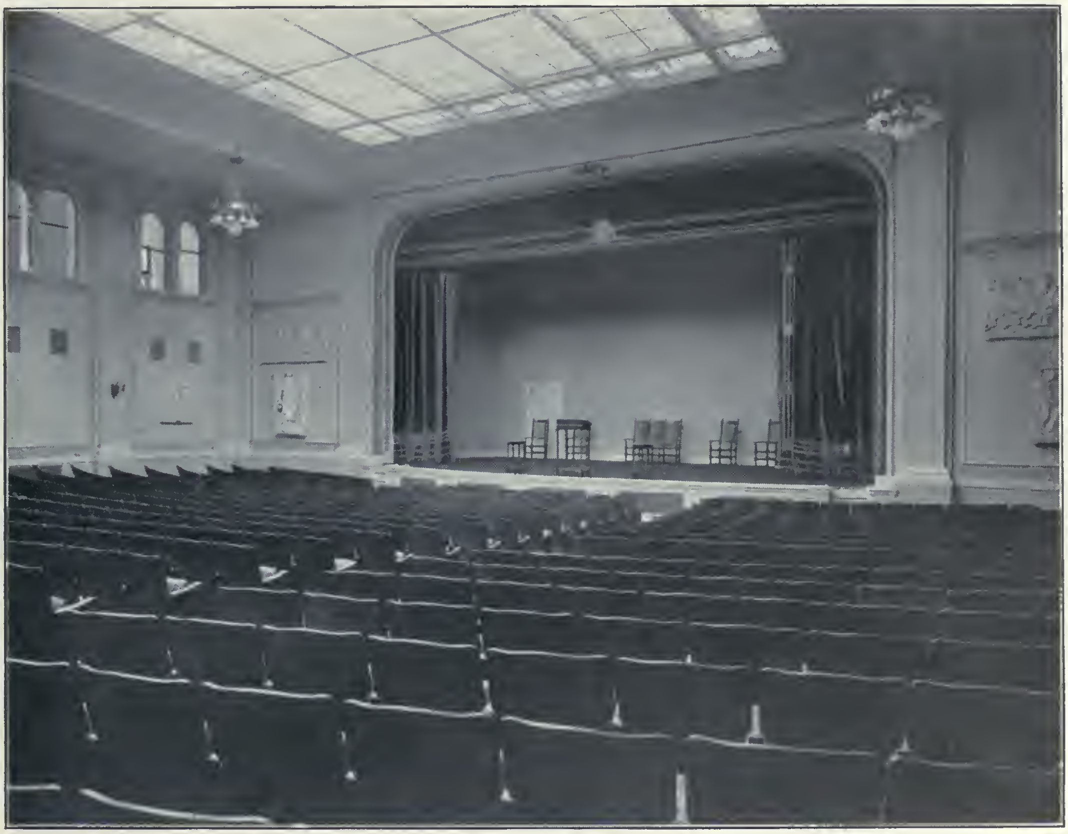


AUDITORIUM, CLEVELAND SCHOOL, NEWARK, N. J.
Size 60 feet by 77 feet. Seating capacity including gallery 830.

The curtain is opened and closed from the dressing rooms at the sides, and moves on wheels overhead in a sliding door track. Provision is also made at the top to adjust the length of the curtain, as any material in such large pieces will sag and stretch of its own weight and drag unpleasantly on the floor. At the top, to hide the tracks and operating ropes, it is usual to place a valance, which remains in place and does not move the curtain. The valance lends itself to effective decoration by the use of the school monogram or other ornamental device, worked out in galloons or colors. While not absolutely necessary, the velour curtain is sometimes lined on the inside with a fireproof duck lining of the same color as the curtain. This gives a more attractive finish to the inside of the curtain and adds a certain fireproof quality which is well worth while.

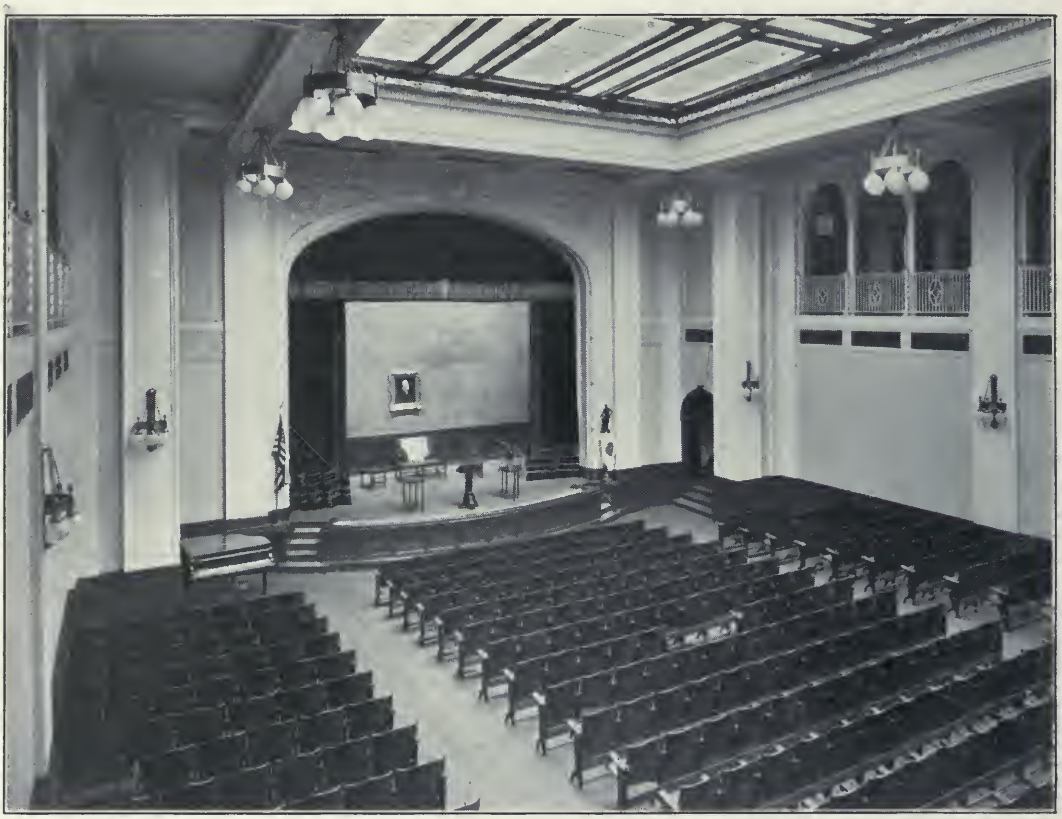
All curtains should have a fullness in the material; that is, when closed tight, they should hang in folds and not be stretched flat. To make the proper folds or plaits in the curtain, extra material of one-third to one-half the width of the opening is required. Back of the valance, besides the tracks and ropes for the sliding curtain, and out of view, is located the stereopticon screen, rolled up on a large wooden roller, about 15 ft. or 20 ft. long. This is lowered by means of ropes from the side dressing rooms, and is always in position for instant use. It obviates the trouble of stretching a loose cloth sheet in place as so often is the case. When lowered the screen can be nicely framed in by drawing the curtain close up to its sides, thus avoiding any objectionable view around the sides or back of the screen, if the latter does not occupy the full width of the stage opening.

The furniture used on the stage is another item not always given the consideration it deserves. The ordinary school furniture which one often sees on auditorium stages, is entirely



AUDITORIUM, HIGH SCHOOL, EAST ORANGE, N. J.
Size 75x85 Feet. Seating Capacity 1,200.

out of keeping with the formal character of a platform, and heavier and larger furniture with a finish in harmony with the color scheme of the room should be selected. Ordinarily a settee, large enough for three persons, two arm chairs and two side chairs are all that is necessary for the good furniture. Any other chairs necessary can be brought in and removed temporarily as required. It is also desirable to have at least two taborets, or small tables, for flowers, books, or other miscellaneous purposes. The reading desk should be of good design and not of the usual "Church" character so often seen. The accompanying illustrations show various stages where good furniture has been used. The stage carpet should be of a simple color to harmonize with the decorations and the stage curtain, and not a rug of striking color combinations. It should be fastened in the floor by pins and sockets so that it can be readily removed, when a raised platform is to be built on the stage, and replaced again without trouble. Behind the stage there should be ample space in order that when the curtain is closed the stage may be properly set. In front of the curtain, to the edge of the stage, at least six or eight feet should be available so that when the curtain is closed, there will be sufficient space for the reading table, chairs, etc., for chapel exercises.



AUDITORIUM, MORTON STREET SCHOOL, NEWARK, N. J.
Size 51 feet by 79 feet. Seating capacity including gallery 751.

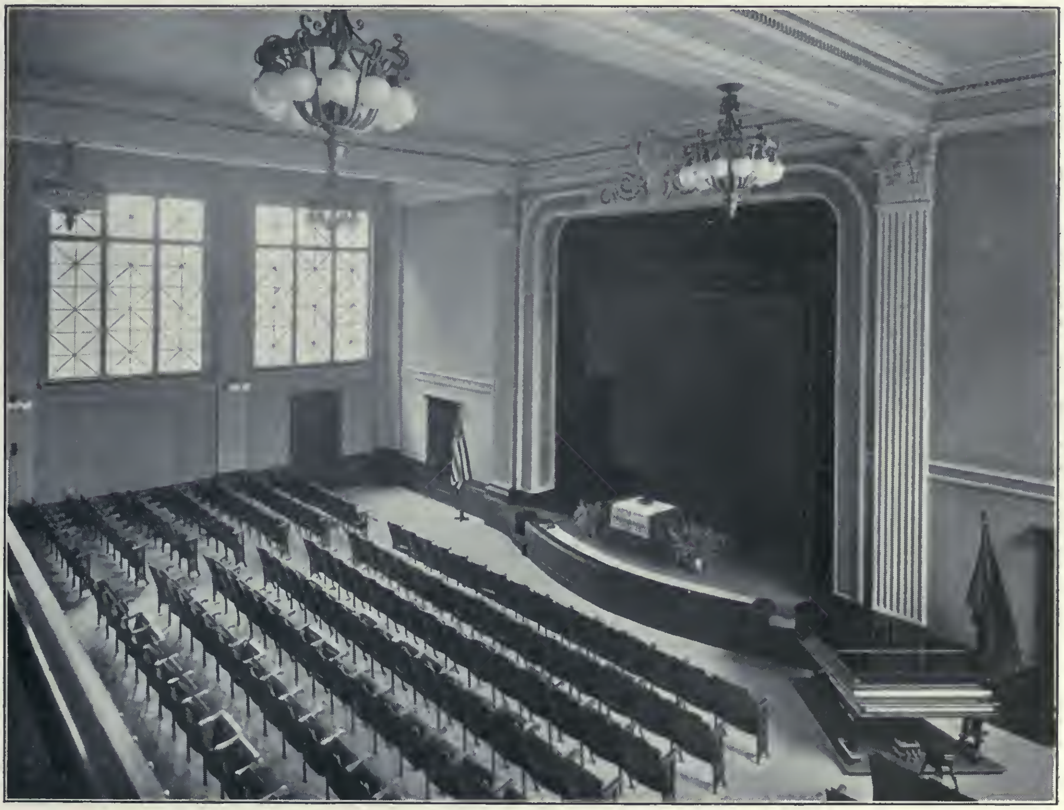
The lighting fixtures should be given consideration from a decorative as well as from an efficiency standpoint. While simple in outline, they should be of proper size and proportion and in the same style as the room. When they are located near the ceiling in a high room, it is of great convenience to have them so arranged that they may be lowered from the roof space above for cleaning and renewing the lamps. Indirect lighting which is now receiving a great deal of attention, and which is somewhat more expensive in electric current consumption, is well worth the difference in the added comfort to the eyes of the audience.

Over each exit door should be placed a gas or an oil lamp, with a red globe, to locate the exits in case of emergency. These lamps should be lighted at all times when the auditorium is used in the evening. Nothing starts a panic more readily than the failure of the electric lights. This is likely to happen in case of a heavy storm or trouble at the central power plant. All precaution should be taken for safety in such an event.

Footlights are installed in a gutter across the front of the stage and when not in use, are protected with removable board covers. In smaller buildings, built-in-foot-lights are often omitted and an electric outlet is set in the floor to attach portable footlights when needed. To make the stage the most brilliantly lighted part of the auditorium, overhead lights or side lights fitted with reflectors, are installed back of the proscenium arch and out of view of the audience. Electric base plugs are placed around the sides and rear of the stage to permit the use of table-lamps, fans, etc. Outlets for water and gas are usually installed in the center of the footlight gutter for use when lectures of a scientific nature are given, or other demonstrations are made.

In addition to the stereopticon, the motion picture is taking an important part in the education of today. The strict rules regulating the use of motion picture apparatus have made some special provisions necessary to overcome the fire hazard.* In addition to the usual requirements, it has been found that the lights in the auditorium should be controlled not only from the dressing rooms at the sides of the stage, but also from the motion picture booth. A main switch should be installed here so that the picture operator can turn on or off the lights, whenever desired. A signal buzzer from the stage to the booth is also a convenience for the lecturer in controlling the display of the pictures.

Provisions for darkening the auditorium in the daytime should not be forgotten. Where side windows occur, opaque shades in addition



AUDITORIUM, MADISON SCHOOL, NEWARK, N. J.
Size 49x57 Feet. Seating Capacity, Including Gallery, 501.

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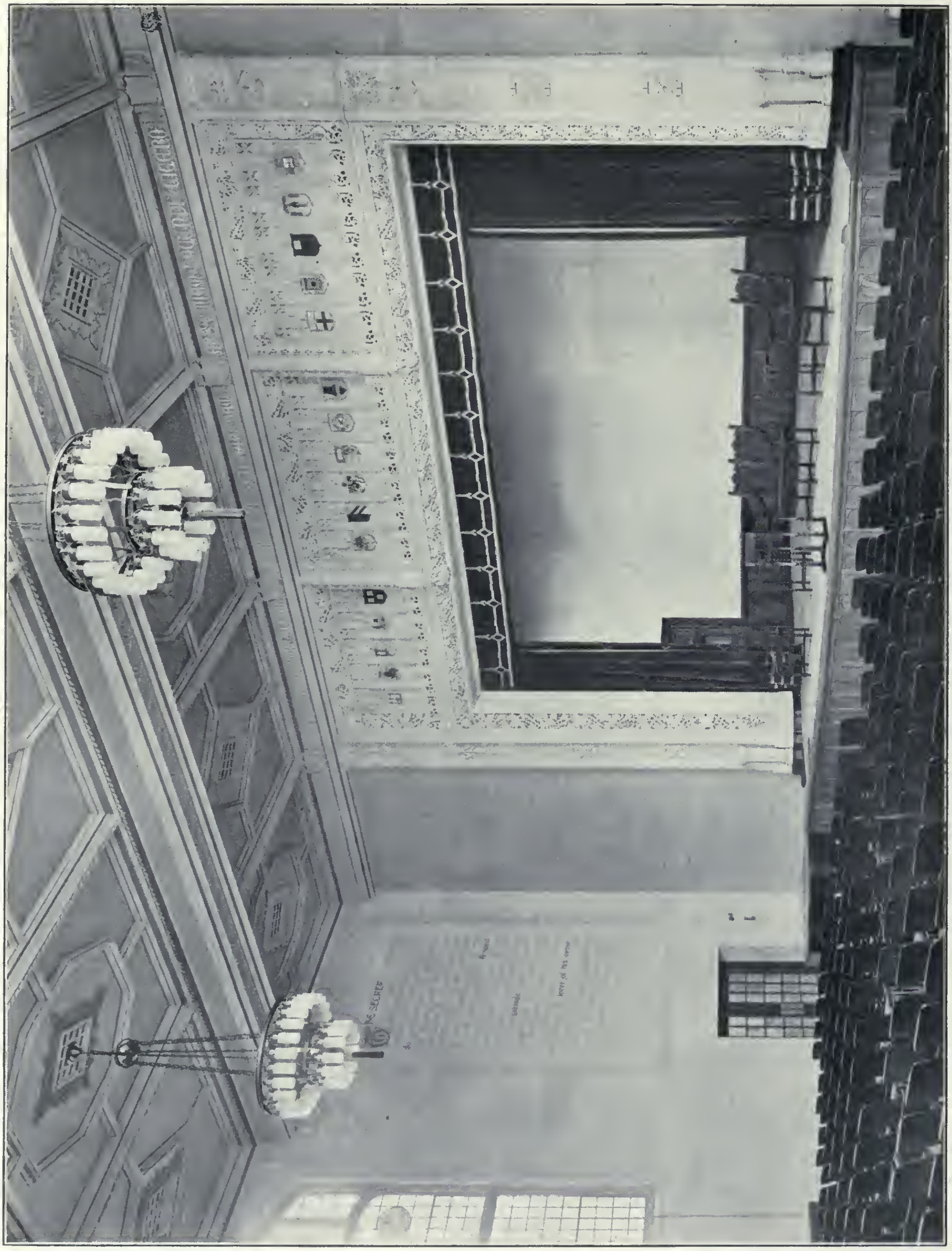
* See American School Board Journal, January, February, March, 1914.



AUDITORIUM, NEWARK STATE NORMAL SCHOOL, NEWARK, N. J.
Size 54 feet by 75 feet. Seating capacity including gallery 757.

to the regular curtains are all that is necessary. When the room is lighted by an overhead ceiling light, it can best be darkened by a heavy canvas on a wood roller over the skylight on the outside. The use of opaque shades under the ceiling light and visible in the auditorium is a very unsightly and complicated arrangement with its many strings, wires and dusty shades which are so hard to keep clean.

For the sake of economy, it sometimes is desirable to use the auditorium as a combination auditorium-and-assembly hall, or as a combination auditorium-and-gymnasium. Needless to say the use of an auditorium for several totally different purposes is not desirable, except from the standpoint of cost. It is impossible to design a room which will be ideal for any one purpose when it must be put to a number of different uses. When used as a study hall an auditorium requires only the installation of chairs with hinged tablet arms, which can be dropped down out of the way when not used for study. Tablet arms are not placed on all the seats, but only on 100 or 200 in the front portion of the room. Only every other chair is equipped so as to give elbow room and to allow space on the intervening chairs for the pupils' books, etc.

When the auditorium is used also as a gymnasium it should be designed frankly as a gymnasium with a stage at one end, rather than as an auditorium with gymnasium apparatus hung on the walls and ceiling. A highly finished auditorium is poorly suited for the rough uses given a gymnasium, and if used as such, soon becomes badly soiled and scarred. There is no great objection to the use of a gymnasium as an assembly hall. Everyone appreciates that he is seated in a gymnasium and is not disturbed by seeing apparatus hanging from the ceiling and the walls. Such double use of an auditorium necessarily requires a level floor and movable seats.

Where the auditorium is located in the center of the building with corridors all around, it has often been found advantageous to place windows in the sides of the room, on the gallery or second floor level. These windows serve not only to light the corridor, but can be used to provide additional space for the audience when the room is crowded to its capacity. In these openings, however, should be placed hinged sash with obscure glass, so that when desired the auditorium can be entirely closed off from the rest of the building and used for the rehearsal of plays, or for meetings not connected with the school.

Acoustics are a troublesome problem. While it is acknowledged that no positive or absolutely perfect results can be guaranteed, there are, nevertheless, certain general principles which should be kept in mind and followed as closely as possible. If this is done generally good results will follow. In the first place, the room should not be excessively high. In a high room an appreciable length of time elapses between the instant the sound is made and the instant when the reflection back from the high ceiling reaches the auditors. This produces an echo. The wall and ceiling surfaces are better if broken up by ornament and projections rather than when they are smooth and plain. A plain, smooth wall, of course, reflects the sound and tends to produce an echo, while one with projections tends to break up the sound waves and overcomes this fault. As a gallery tends to prevent the rebounding of all sound waves, a room with a gallery is usually better than one without. A comparatively soft plaster made of old-fashioned lime is better than a hard, patent adamant plaster as it has a tendency to absorb the sound waves, while an adamant plaster tends to reflect them.

In spite of all precautions it sometimes happens that a new auditorium is very hard to speak or hear in, and is otherwise defective from an acoustic standpoint. It is not fair, however, to judge an empty hall for an echo, because when filled with people the result is often very different. The people and their soft clothing tend to absorb the sound waves, and when defects are not too great they are often entirely eliminated. There are, however, many cases where corrective measures are necessary. The old-fashioned method of stretching wires across the room has long been abandoned as useless. It has been demonstrated that a soft covering over hard plaster walls absorbs the sound waves and overcomes the echo. There is now made especially for corrective purposes a heavy felt with which the plaster walls of a room are covered and formed into panels, as the size of the sheets of felt seem to make necessary. This felt in turn, is covered with a canvas and is then painted to match the decorations of the room. Such a simple expedient has been found to correct and make almost perfect the acoustic properties of some of the most important auditoriums in the country. In the writer's experience, when a large auditorium was being designed and its importance seemed to warrant it, an expert on acoustics has been called in for consultation and advice, and the small expense thus involved has been more than repaid by the satisfactory results accomplished.

The ventilation of an auditorium is a subject which cannot receive too much attention when a building is designed. The good reputation of the school and those responsible for it, depends upon the comfort of the people comprising the large audiences which fill our school auditoriums many times during the year. These people are the taxpayers of the community and the real owners of the building, and as the auditorium is practicably the only room they use to any great extent, they do not hesitate to express their disapproval if everything is not as it should be.

Generally speaking, the most modern ventilating system distributes fresh air very thoroly thruout the area of a room, and does not depend on driving the air thru registers on the sides or rear of the room with sufficient velocity to carry it across one-half the room, and thus produce unpleasant draughts. Fresh air is now admitted thru a number of registers distributed in the area of the ceiling and drawn down and out thru numerous mushroom covered openings, evenly distributed in the floor under the fixed seats. This arrangement, when the very best system is desired, is made reversible so that in summer the air can be driven in at the floor and taken out at the ceiling, and during winter taken in at the ceiling and out at the floor level. Should the reader be interested in the subject of ventilation, he is referred to the excellent articles appearing in the January and February, 1915, numbers of the *School Board Journal*, by D. D. Kimball, President of the American Society of Heating and Ventilating Engineers. The subject of auditorium ventilation is ably covered in the last part of the articles.

Regarding the general decorative scheme which seems so much neglected in the average auditorium, dignified and beautiful results can be accomplished by the choice and use of a few simple colors on the walls and ceilings. As a rule these colors should be various shades of old ivory, buff or light gray. The heavy dark colors so often seen give an oppressive and somber atmosphere to the room, which is just the opposite of the effect desired.

The stage, proscenium arch and front walls of the room are those most in view of the audience and should be given the most attention. Usually the space between the top of the wood baseboard and the chair rail is given a fairly deep tone of buff. From the top of the chair rail to the cornice at the ceiling a lighter color is used, and the ceiling is made very light cream. The moldings around the proscenium arch and the ornament in connection with the same are picked out in colors to emphasize their importance. If money permits, (and it costs but little), the large plain wall and ceiling surfaces can be reduced and made more attractive by the addition of striped panels or colored stencils. As will be seen in some of the accompanying illustrations, lettered mottoes or inscriptions are often introduced into the wall panels with very decorative effect. A careful type of classic letters should be used, however, to avoid the appearance of the ordinary advertising sign.

Plaster casts are also introduced into the decorative scheme with good effect. They should however, be carefully considered as to the scale and size of the subject and also the space where the cast is to be placed. It often happens that two spaces of the same size on opposite sides of the room should be decorated. In this case the casts should not only be approximately the same size as to the general dimensions, but the figures or ornament in both should be of the same scale.

While it is always very desirable to paint the walls and ceilings of all corridors thruout a school building, the money for this purpose is often lacking. In any case, where the auditorium is decorated, the corridor directly in front of the doors to the auditorium, and the hall leading to the main entrance, should be decorated in harmony with the auditorium. It is very unpleasant to enter a handsome new building and find a beautiful auditorium, while every part of the building one passes thru to reach this auditorium is not decorated or painted. It is surely a sign that the money has suddenly run short, or that those having the new building in charge have been thoughtless.

The Heating and Ventilation of School Buildings

D. D. Kimball, President, American Society of Heating and Ventilating Engineers;
Member, New York State Commission on Ventilation.

There is annually expended in this country in the construction of new public and private school buildings approximately the sum of $102,000,000, of which vast sum about 10 per cent, or $10,000,000, represents the money expended for school heating and ventilating plants. Approximately 21,000,000 children spend one-third of their daytime in these buildings for forty weeks of the year. The importance of such atmospheric conditions as are conducive to their welfare thus appeals to us with a force that is compelling. It is of vast importance that we should know that the expenditure of such a sum of money is wisely made and that the best conditions possible are provided for the physical, as well as the mental and moral, development of this great army of the men and women of tomorrow.

Within the last few years a great deal of criticism has been directed against artificial ventilation, particularly in school buildings. This has been aired in the public press and thru trade journals in such a way as to lead to the belief that there is little or no merit in artificial ventilation and that much of it is made up of "devices of the devil" manufactured and sold by commercial interests for profit only, without regard to any merit or existing need. In the main these criticisms are unmerited, and without exception they are unscientific and ill founded. It may not be said that there are no grounds for severe criticisms of much of the ventilation work of the past, but the justification for such criticism lies in other than lack of knowledge or ability on the part of the engineers and may not be applied to the work of the best engineers under proper conditions.

The most of the failures of the ventilation work of the past may be justly attributed to insufficient appropriations for the installation of ventilating systems and for their maintenance and operation. Very many installations are incomplete, ill designed, and installed with the use of unsuitable or cheap apparatus and material.

The majority of ventilating systems for school buildings have, in the past, been designed by architects, contractors, and manufacturers of apparatus or patented systems. No injustice to the architect is intended by this statement, but architecture and engineering are two very different professions involving different training, experience and temperament. The field of the contractor and manufacturer is essentially different from that of the consulting engineer. Tho it be true that many of the large contracting firms maintain a force of engineers, the work of such engineers is especially that of caring for the installation of systems designed by others.

Noisy apparatus and systems are often urged as an objection to heating and ventilating plants, but the presence of noise of any kind is quite unnecessary and is evidence only of lack of skill in design or installation. Failure to maintain proper upkeep and repairs is responsible for many of the failures of ventilating plants. Were the upkeep and repairs of the school buildings themselves neglected to the same extent as occurs in the case of the heating and ventilating plants a great many buildings would annually become positively unsafe for occupancy.

Possibly the most frequent and the most serious cause of failure is the absence of proper skill in operation. It is annoying to note the number of plants which are operated by boys or janitors who know absolutely nothing of the rudiments of fuel burning or care of a steam plant or of a ventilating system. Such men waste daily fuel costing more than the gross amount of their wages. The loss in repairs and maintenance of the plant is more important still, and the loss in the efficiency of the plant is vastly more serious.

Often too, there are such restrictions applied by the authorities to the operation of the plant or the work of the janitor that the proper operation of the plant is impossible. If a school board directs that the ventilating plant must not be operated before December first, or after April first, regardless of outside weather conditions or the needs of the building, is it to be wondered that complaints of insufficient ventilation are often heard? If the janitor is offered a bonus for saving coal, is it surprising that the ventilation suffers? If it be further required that he must at all times operate his fan engines, should it be regarded as remarkable that he removes the belt between the engine and fan? Thus he saves coal and yet operates his engine, but no air is being supplied to the building. Manifestly the building suffers for lack of ventilation, and the ventilating plant is charged with failure.

The ventilating plants for the school buildings of a certain city are designed by one department, their operation is supervised by another, they are kept in repair by another department, the fuel is purchased by still another department, and the janitors and firemen are employed by yet another department. It is remarkable that there is an absence of correlation in the work of the various departments, with the result that the systems remain in need of repairs, sometimes for months, during which time portions of the plant are not in use? Often improper fuel will be selected. Confusion results, and to a serious degree the successful operation of the ventilating plants is threatened.

Very few of the vast number of school buildings erected in this country are provided with automatic recording instruments to determine the efficiency of the operation of the heating and ventilating plant, either from the standpoint of fuel consumption or as to the results obtained in the building. Such instruments intelligently used would largely reduce operating costs. In very few instances is there any system of supervision to assure the proper maintenance of the economical operation of the school ventilating plant. In a few instances such supervision is in vogue with results in economy and efficiency which have more than justified the expense of the system of supervision. These, and other similar conditions might be cited to explain failures of artificial ventilating systems, but therein is no ground for the condemnation of the artificial ventilating system properly installed and properly operated.

A criticism which may possibly be directed against heating and ventilating engineers is that they have too often submitted to the imposition of conditions making success impossible, usually due to restricted appropriations for the installation of the heating and ventilating plant. It is to be regretted that every consulting engineer will not decline to undertake the design of a plant for which a sufficient appropriation is not made, just as it is to be regretted that a school building committee will insist that an architect shall undertake to provide plans for a larger building than may be well built for the money available, or that other committees will insist upon an ornamental structure or the use of stone, marble or other decorative materials at the expense of the heating and ventilating equipment, even tho the latter is that element of the building which means most for the health and comfort of the children.

Largely as a result of the criticisms directed against the artificial ventilating system many investigations and experiments have been conducted, some of the most important being those of Fluegge, Hill, Milner, Benedict, Lee, Crowder, Winslow and Baskerville, the work of the New York State Commission on Ventilation, and experiments in the Boston and Minneapolis schools and elsewhere.

Out of the vast amount of work that has been done has come a realization that, altho the volumetric standards of the past were substantially correct in amount, the bases thereof were misunderstood. Heretofore the practice of the art of ventilation has been based on the theory that a certain amount of fresh air must be supplied to maintain the purity of air of the occupied apartment. A certain proportion of carbon dioxide in the air has been used as a basis in determining the standard of ventilation, or the amount of air required for ventilating purposes. The permissible standards, or the limit of CO_2 in the air of the schoolroom, is stated by different authorities to be as follows:

Barry.........	6 parts in 10,000
Carpenter.....	8 parts in 10,000
Allen..........	7-10 parts in 10,000
Shaw..........	7 parts in 10,000
Bowler........	6-7 parts in 10,000

The generally accepted standard has provided that the air of the schoolroom shall not contain over seven to eight parts CO_2 in 10,000 parts of air. Using the formula

$$V=10{,}000\,\frac{N.\,6}{S-4}$$

to be supplied, 10,000 represents 10,000 parts of air, N the number of occupants, .6 the amount of carbon dioxide given off per person per hour in cubic feet, S the standard of purity to be maintained in the air of the room and 4 the number of parts of carbon dioxide ordinarily found in outdoor air, the amount of air required per person to maintain eight parts CO_2 in an occupied apartment is found to be 1,500 cubic feet of air per hour per person, and to maintain seven parts CO_2 2,000 cubic feet of air per hour per person. In practice, and in accordance with all the laws covering the ventilating of school buildings, it has been customary to design school ventilating plants on the basis of 1,800 cubic feet of air per pupil per hour. In this connection the following authorities are quoted as to the number of cubic feet of air per hour required for schoolroom ventilation:

Barry	1800
Dresslar	2000-2500 according to grade
Morrison	2000-3000 according to grade
Carpenter	3000
Allen	2400
Woodbridge	2500
Rafter	850-2000 according to grade
Shaw	1800
Bowler	3000

While 1,800 cubic feet of air per pupil per hour, is the subject of general agreement in the matter of schoolroom ventilation, there are some school boards which, desiring the best possible atmospheric conditions in the schoolrooms, have placed the maximum CO_2 content of air of a schoolroom at six parts in 10,000 parts of air, or 3,000 cubic feet of air per hour per pupil. So far as it relates to healthful atmospheric conditions there can be no objection to such a standard, but it is not believed that such an air volume is essential to proper ventilation if all other requisites are properly considered.

Carbon dioxide is no longer regarded as harmful. It may, however, be taken as a good index or measure of the air supply and diffusion.

Until recently the standard for temperature within the schoolroom was 70 degrees. Within the last two to four years 68 degrees has been generally adopted as the most desirable schoolroom temperature, and there seems to be complete agreement that the temperature of the schoolrooms should not exceed this mark. Some efforts have been made to reduce this temperature to 65 degrees and even less, but it has not been demonstrated that such a low temperature is satisfactory. It is at least to be doubted whether it will be satisfactory unless a proper degree of humidity is maintained.

Until very recently such refinements as air filtration, air washing, temperature regulation, humidification and the general diffusion of air, were not regarded as essential details of a heating and ventilating plant, but all of these factors have now become recognized as of vast importance in ventilation work.

In the new conception of ventilation three things stand foremost. These are, Temperature, Humidity and Air Movement.

As stated above the temperature of the schoolroom should be 68 degrees.

In the matter of relative humidity there is no such agreement as to the necessity of providing for artificial humidification, nor is there an agreed standard of relative humidity.

The following authorities are quoted as to the desirable percentage of relative humidity which should be maintained in occupied apartments:

Wolpert	40%-60%	Rubner	30%-60%
Oesperlen	40%-60%	Riepzchel	30%-40%
Scherer	30%-60%	Richardson	40%-60%
Paul	40%-60%	Shepherd	30%-55%
Rietschel	40%-60%	Brefflar	40%-50%
Smith	50%-60%		

There exists in the above a general agreement that the relative humidity should not be less than 30 per cent nor more than 60 per cent. The prevailing opinion is that the minimum should be 35 per cent and that it is not necessary to provide artificial humidification in excess of 45 per cent to 50 per cent.

In extremely cold weather a relative humidity in excess of 35 per cent will cause a freezing on the windows. While there is no element of harm in this it has led engineers to so design the artificial humidification system that 35 per cent should be the maximum in extreme cold weather.

It has been stated that the dry air produces adenoids and a thickening of the mucous membrane of the respiratory passages which, long continued, results in hypertrophy thereof, and conditions which make infection easily possible. Also that it produces restlessness and nervousness and results in inattention and lassitude.

A higher degree of relative humidity is said to produce quiet and restfulness, permitting a greater degree of concentration and effort.

Debated as these views are the consensus of opinion favors such artificial humidification as will prevent a relative humidity of less than 35 per cent in occupied apartments and the best school heating and ventilating systems designed today provide for means of artificial humidification, as will be explained.

It may not be questioned that the degree of relative humidity has a decided effect on the feeling of comfort at a given temperature. A high temperature is necessary for comfort if the air is dry. This is so because the hot, dry air absorbs a great deal of heat from the body in the evaporation of moisture from the surface thereof because of the capacity of hot, dry air for moisture. With a higher relative humidity the absorption of moisture, and consequently the absorption of heat, is lessened, and the room temperature may be lowered. The extent of this lowering of the temperature is variously stated to be from two to ten degrees. Conversely a very low temperature with high humidity produces a feeling of chill, because of the rapid absorption of heat from the body by the moisture in the air.

It has been erroneously stated that by the lowering of the temperature and the raising of the relative humidity a large saving in fuel could be made. The fact of the matter is that even should the temperature be lowered ten degrees the amount of heat required to produce 50 per cent relative humidity in zero weather would require the use of four times as much heat and fuel as would be saved by the ten degree reduction in room temperature. Incidentally, approximatey one to one and one-half horse power of additional boiler capacity is required for the artificial humidification of each standard classroom.

Artificial humidification of school buildings has met with pronounced favor wherever tried.

The problem of temperature and humidity, as will be seen from the above, are closely interwoven. With these is also linked the third, and possibly the most important element of artificial ventilation as it is viewed at this time, that of air movement required for the removal of the heat and moisture given off by the body.

The heat given off by the body of an adult at rest is variously stated by authorities as follows:

Pettenkofer	400 Heat Units per hour
Benedict and Milner	375 Heat Units per hour
Rubner	380 Heat Units per hour
Landois and Roseman	368 Heat Units per hour
Atwater and Benedict	366 Heat Units per hour
Fluegge	495 Heat Units per hour
Wolpert	400 Heat Units per hour

As will be noted the average is approximately 400 heat units per person per hour. The amount varies with the size of the body, degree of activity, food consumed and dress. For a grade school pupil the heat given off amounts to about 300 Heat Units per hour.

The moisture elimination from the human body at rest is stated by Thomas to be one-twelfth of a pound per hour, and by Milner and Benedict to be one-fourteenth to one-twelfth of a pound per hour.

This combination of heat and moisture, remaining and accumulating in the air immediately surrounding the body, produces a hot aerial envelope and brings about identically the same uncomfortable conditions as exist in a room of high temperature and humidity without ventilation. Hence it becomes vastly important that there should be such a movement of air surrounding the body as will remove this film of hot, moist air.

Much has been said of the rising column of air surrounding the body with the inference that this column of rising air, induced by the heat and moisture of the body, causes an upward current of air which, if not sufficient to bring about ventilation, at least assists upward ventilation. The fact of the matter is that it does not do this. It is stated by Shaw that this upward movement of the air surrounding the body is equal to one and one-half to two feet per second. In any case it is so slight as not to be considered a factor in the problem of ventilation or in the determination of the system of ventilation, or the direction of air movement therein. Such movement of air is upset by the least air current due to the operation of any ventilating system or other causes circulating the air within the room. Also, it is more than offset by the cooling effect of windows, walls, doors and roofs.

In the case of a standard classroom the heat given off by the pupils is equal to fifty to eighty square feet of direct steam radiator surface. Manifestly the schoolroom must be provided with sufficient heat to produce the desired temperature at the time of its occupancy. This amount of additional heat from the pupil must be carried off continually. The removal of this heat increment can best be accomplished thru the medium of air, exhausted from the room, which is replaced by a constant supply of fresh air at a temperature which will permit of the taking up of this heat without the over-heating of the room.

It has been found difficult to introduce air into an occupied room at a temperature of more than ten degrees less than the room temperature without causing annoying draughts. Three hundred heat units, which, as stated above, are given off per pupil will heat approximately thirty cubic feet of air thru a range of ten degrees. Therefore it is that thirty cubic feet of air per pupil per minute is determined upon as the amount required for ventilating purposes in schoolrooms. This new basis of determining the volume of air required for ventilation is the only logical one, and is recommended by Rietschel, Winslow, Franklin and others. Experience has thoroly demonstrated that this volume of air, properly introduced and diffused thruout the occupied space of the room, will absorb and carry off the heat and moisture given off by the occupants thereof and give satisfactory ventilation.

As evidence of the effect of a high temperature recent experiments conducted by the New York State Commission are of interest. Approximately 15 per cent less work was done by the subjects with a room temperature of 75 degrees than by the same students with a room temperature of 68 degrees. At 86 degrees the volume of work done fell 35 per cent. The same conditions relating to food, nature of work and other details were maintained during both tests. This statement relates to the amount of work voluntarily done rather than the amount which might be done under necessity.

The less importance now attached to the proportions of carbon dioxide and oxygen contained in the air, and the significance of air movement and high temperature may be illustrated by reference to experiments conducted by Dr. Leonard Hill. He observed three students confined in a small air-tight chamber. He says: "We have watched them trying to light a cigaret (to relieve the monotony of the experiment) and puzzled by their matches going out, borrowing others, only in vain. They had not sensed the percentage of diminution of oxygen, which fell below seventeen." As is well known the percentage of oxygen in the occupied apartment rarely falls below twenty. The temperature and humidity within the chamber became so excessive that the students became wilted and faint. The starting of electric fans within the chamber brought prompt relief. The breathing of outside air thru a tube brought no relief, while the breathing of air within the chamber by students without caused no discomfiture. The relief felt because of the operation of the fans would doubtless continue until the temperature and humidity rose much higher. This and many other similar experiments have demonstrated the importance of such air movement as will remove from the body the heat and moisture given off therefrom.

Experiments made by the New York State Commission on Ventilation to determine the relative effects of stagnant air and fresh air showed a distinct decrease of appetite in the stagnant air altho the subjects were apparently not otherwise affected. Whether this was due to the sub-conscious effect of odors or was indicative of other, and possibly more serious, effects has not yet been determined. This matter is being further studied.

As a result of two years of experimentation at the International Y. M. C. A. College the conclusion is reached that "The foul, dry air ordinarily found in gymnasiums greatly lessens the value of the exercise." It is quite conceivable that mental effort may be similarly affected.

The importance of the effect of dust in the air of a room is a much debated question. There are those who assert that dust is an irritant, causing serious disturbances in the respiratory tract, and that it is the bearer of germs which obtain entrance to the system thru irritations and abrasions caused by the dust. Still others assert that dust coming into contact with steam heated surfaces produces carbon monoxide and carbon dioxide thru the process of distillation and that the oxidization of this dust robs the air of oxygen. The general belief prevails that such dust as is found in the air of the schoolroom is not directly harmful and the theory of aerial infection is abandoned. At least it is not materially affected by ventilation. The investigations of Professors Winslow and Baskerville in the New York City schools demonstrated that the amount of bacteria existing in the schoolrooms was negligible. None, however, contend that the removal of dust is not highly desirable, for altho it involves no real ill it is certainly unclean and objectionable. It is quite probable that the cumulative effect of breathing dusty air is bad. Certainly this is so in the dusty trades.

Odors are not generally believed to have any physiological significance. Many persons, however, are affected thereby psychologically while with others there seems to be direct lessening of the appetite which may directly affect the capacity for work.

Much discussion has been applied to the question of the organic content of exhaled air. A great many experiments have been made to determine the merits of this question. It is now very generally agreed that there is no toxic matter or poison, sometimes referred to as "crowd poison," in the air of an occupied apartment.

Ozone is no longer advocated a substitute for, or as an auxiliary to, artificial ventilation, except, possibly in some of the industrial processes.

Trade and local poisons do not enter into the problem of school ventilation except to the extent that extreme care should be used in the location of the fresh air intake so that by no possibility should the air taken into the building for ventilation become contaminated by smoke, sewer gas, stable odors or any local or trade dusts or poisons.

Probably no question relating to school ventilation has been more discussed within the last three or four years than has that of open air schoolrooms. The advocates thereof assert that artificial ventilation is a failure, and maintain that the open air schoolroom and window ventilation has proved a remarkable success. But has the matter been fully analyzed? Usually a small class is the subject of this experiment, the class being conducted by specially selected and enthusiastic teachers; the students are given short lesson periods, ample rest periods, sleep periods and exercise periods. They are given special medical attention. Their physical welfare and mode of living are more or less subject to the care of nurses, their homes are visited to see that the best possible conditions are provided therein for the children, they are provided with medicines and furnished with lunches of special quality. With all these helps it would be strange indeed if the physical and mental progress of these children were not remarkable. But is there any assurance therein that the progress made is due solely to fresh air, or that similar results could not be obtained in closed rooms properly ventilated?

Experiments recently made seem to indicate that the elimination of the special diet alone lessens the results obtained in the open air schoolrooms. What the results might be with the elimination of one or more of the other special features is not known. Whether similar results can be obtained in a closed room with a similar regime also is not known. It has been reliably stated that the introduction of all of these special open air schoolroom features, with the special clothing required by the pupils, applied to the entire school system of the City of New York, would involve an annual increased expenditure of approximately $3,000,000.

An investigation of this problem of open air schoolrooms is being planned. The scheme proposed provides for the use of six schoolrooms, each containing the same number of children of the same age, living under approximately the same home conditions; one room is to be a closed schoolroom with 68 degrees temperature and the usual closed school regime, a second room is to be a closed room with 68 degrees temperature with the open air school regime, another room is to be an open air room with the usual open air school regime, another room is to be an open air room with the standard closed schoolroom regime, another room is to be a closed room with 50 degrees temperature and the closed schoolroom regime, and the remaining room is to be a closed schoolroom with 50 degrees temperature and the open air schoolroom regime. The 50 degrees temperature in the last two rooms would be continued only as long as outside weather conditions would permit. It is believed that such an investigation will give a great deal of valuable information on this important subject of open air schoolrooms.

The extensive investigations of Professors Winslow and Baskerville on atmospheric conditions of the New York City Schools warrant the belief that no superiority was apparent in the case of the naturally ventilated schoolrooms within the City of New York. The best and worst results were found in the artificially ventilated schools, the operation of the ventilating plant proving an exact index to the capability of the janitor. Manifestly it should be easier to secure proper results by selecting one capable engineer to operate a well designated and well installed system than by placing dependence upon a large number of teachers who have many other duties to perform and who know little of either the importance or method of operating the windows or plant to secure the best room conditions. It is common knowledge that one may remain within a room while the temperature rises to 75 or 80 degrees without becoming aware of such a condition. This is exactly what happens when the control of the temperature and air supply is left to the teachers. Such a condition results in listlessness, inattention, sleepiness, dizziness and even nausea on the part of the pupils.

With the artificial ventilating system it is possible to maintain indefinitely any temperature, relative humidity, air volume and air movement desired within the schoolroom or to vary these as required. It is impossible to maintain such a condition in a schoolroom by the manual control of radiators and the use of windows.

The failure of a teacher to give attention to the regularity of temperature results in high and excessive temperature changes, because of the extreme difficulty, and even impossibility, of maintaining the air supply thru the windows without draughts on some of the pupils, or of providing an air supply thru the windows when their is no breeze outside, or of providing an air supply on the leeward side of the building. Manifestly a breeze can produce an air current thru the windows upon but one or two sides of the building. The rooms on the other two or three sides of the building must fail to receive the proper air supply.

An effort to ventilate the school by means of windows is most often sure to result in objectionable draughts in the rooms on one side of the building, with some stagnant areas in all of the rooms, while on the other side of the building the only air received by the schoolrooms is that coming from other rooms, which results in uncomfortable conditions in these latter rooms. And what is to be said of the dust coming in thru the windows? And how may the humidity be regulated?

The suggestion is often made that the windows should be opened at the top and bottom so that the fresh air may come in at the bottom while the hot, foul air goes out at the top. Such a suggestion is absurd because a wind pressure sufficient to bring air in at the bottom also brings air in at the top. The absence of a breeze which is sufficient to bring air in at both bottom and top permits of only the slightest amount of air movement in thru the bottom and out of the top, the amount thereof being entirely insufficient for the ventilation of the schoolroom. The only merit of this scheme is to secure greater diffusion of the air entering thru the window.

The recirculation of the ventilating air of a building has recently received much attention. The experiments of Dr. McCurdy at the Springfield Y. M. C. A. and of Professor Bass of Minnesota have opened a wide field of investigation. In the former case the results obtained by the recirculation of air thru an air washer were quite as satisfactory as those obtained with outside fresh air. Indeed the air when recirculated thru the washer was freer of dust than outside air not washed, and to this extent was superior to the outside unwashed air. In Professor Bass's experiments he also obtained satisfactory results in schoolroom ventilation with recirculated air, even with reduced air volumes, when admitted to the room directly in front of each individual pupil. His results, however, were not as satisfactory as to the elimination of odors by means of the air washer as were Dr. McCurdy's, where strong gymnasium odors seemed to be satisfactorily eliminated by the air washer. In the Springfield experiments much larger air volumes were used than are customarily used in school buidings, and in the Minneapolis experiments the effort appears to have been limited to an attempt to equal conditions in a room ventilated in the usual manner. During the past year these experiments have been continued under the direction of, and with the support of the New York State Commission on Ventilation.

By recirculation a material saving is made in the cost of fuel otherwise required for heating the outdoor air. This is partially offset by the cost of water required for rehumidification. However, the study of recirculation has not been carried far enough to warrant a recommendation of recirculation in school building ventilation.

The subject of artificial cooling, as applied to school buildings, has received very little thought. A few artificial cooling plants have been successfully applied to hospitals, banks and residences and there is no reason why cooling should not be applied to school buildings where sessions are held during the warm weather. The most serious difficulty involved lies in the fact that such artificial cooling plants are very expensive to install and operate. The cooling plant may be installed in connection with an air washing system, but at a cost of approximately $300 to $600 per 1,000 cubic feet of air to be cooled. The volume of air used, however, may well be reduced by one-half of that required for winter ventilation. In the matter of operation the cost for cooling ten degrees is approximately the same as that of heating to 70 degrees in zero weather. This is largely due to the fact that to accomplish successful cooling it is necessary to de-humidify the air or else the moisture content, or relative humidity, will be so great as to result in an uncomfortable "clammy" feeling.

If, as now seems proven, a high room temperature produces discomfort and physiological disturbances in the body resulting in a lessened inclination to do physical and mental work, the question of artificial cooling assumes a new importance.

Many methods have been used in the installation of ventilation equipment for school buildings. These may be generally classified as follows:

1. Natural ventilation. This term may be properly applied to only open air schoolrooms without artificial heat or ventilation; and to

2. Direct radiator systems, in which direct radiators are used for heating and dependence for ventilation is placed upon the use of windows.

3. Direct-indirect radiator systems, in which the air supply for the rooms is secured by means of small openings directly back of and under the radiators for the passage of air from the outside into the room thru the radiator.

4a. Gravity indirect system, without accelerated exhaust. In this system the air enters the building thru basement windows or other openings and passes over indirect radiators located at, or near, the base of flues connecting to the schoolrooms, the heating effect of the indirect radiators being depended upon to maintain the air supply to the schoolrooms. No provision is made to assure the exhaust of vitiated air in this system.

4b. Gravity indirect system, with accelerating radiators in the vent flues to assure the exhaust of the vitiated air.

Direct radiators are customarily, but not necessarily, used in connection with these gravity systems.

5a. Single fan systems, with no accelerating radiators in the vent flues.

5b. Single fan systems, with accelerating radiators in the vent flues.

In connection with these systems, direct radiators are customarily, but not necessarily, used.

6. Double fan systems, with no direct radiators in the classrooms.

7. Double fan systems, with direct radiators in the classrooms, often referred to as the "split system."

The direct-indirect method of air supply is most inefficient and unsatisfactory. Under the best weather conditions only, that is, with the wind blowing directly against the outside opening, will any air pass thru the opening and radiator into the room, and even then the air supply will be sufficient only for two pupils per radiator. Under other than the most favorable conditions no air is supplied by such a system. The increased size of the radiator necessary for the heating of the air results in over-heating the room during much of the time. This system may be combined with some form of an exhaust system to remove the heated and vitiated air, but the efficiency of the exhaust system is seriously lessened because of the small air supply secured thru the direct-indirect radiators.

Natural ventilation has been discussed above. Gravity ventilation, often confused with natural ventilation, is seriously objectionable in that its operation depends wholly upon outside atmospheric conditions. It is customary to design such systems on an assumed difference of 40 degrees between the outdoor temperature and the desired room temperature; that is, if 68 degrees is desired in the schoolroom 28 degrees is assumed as the outside temperature. When the outside temperature is less than 28 degrees an increased volume of air is provided by the gravity ventilating system, but when the outside temperature is above 28 degrees less than the intended amount of air is delivered by the gravity ventilating system. Inasmuch as the outside temperature is above 28 degrees for the greater portion of the heating season the gravity ventilating system fails to maintain the supply of air at the intended standard much of the time. Because ventilation is most needed in mild weather, this becomes a serious defect.

Any system of ventilation which is without means of making positive the exhaust of vitiated air, that is, ventilating systems without either accelerating radiators in the vent flues or exhaust fans, are seriously deficient because the removal of exhaust of the vitiated air is not assured. Very often in such systems this exhaust of the vitiated air fails entirely; in any case it proves to be variable in amount, and sometimes back draughts of cold air down the vent flues into the classrooms become serious. The use of accelerating radiators in the vent flues is subject to the same objection as has been applied above to the gravity systems of ventilation. They are wholly dependent upon atmospheric conditions, are often troublesome, and the cost of exhausting the vitiated air by this means is from four to ten times as great as the cost of exhausting the same amount of air by means of motor driven exhaust fans, the exact ratio depending upon the prevailing cost of fuel and electric current. Because of the fact that the cost of the fuel used in making the steam condensed in the accelerating radiators cannot be separated from the fuel used in heating a building, the cost of operating the gravity exhaust system is not known to the school board and so passes unnoticed, while the less cost of the electric current used in operating motors driving the exhaust fans, is carefully scrutinized and often harshly criticized by the board.

Every heating and ventilating engineer will agree that the most efficient and economical method of supplying and exhausting the air required for school buildings is that of using fans for both the supply and exhaust of air used in ventilating. Whether the fans should be driven by steam engines, electric motors, gas engines, or water motors will depend entirely upon local conditions. The use of electric motors has the advantage of simplicity and ease of management, requires less skill and meets with the most favor.

The use of direct radiators in all portions of the school building, except in the classrooms, is practically universal. There is some difference of opinion as to the wisdom of the use of radiators in the classrooms, but this is now generally conceded as wise and is in general practice. Without radiators in the classrooms the air supplied for ventilating purposes must be heated to a temperature ranging from 100 to 130 degrees and this is regarded as most undesirable. Further, the best results in heating and ventilating work are obtained when the heating and ventilating work of the plant are separate features thereof. The direct radiators provide for greater economy in operation, in that they serve the purpose of heating the building before the period of its occupancy, and they permit of the continued warming of the building after school hours for the use of the teachers or detained pupils. By some authorities the radiant heat from the radiators is regarded as beneficial but this is open to serious doubt.

Some designers install sufficient radiation in the rooms to maintain a temperature of 70 degrees in zero weather independent of the operation of the ventilating plant. This is seriously objectionable in that it places in the classroom too large heating units which cool off so slowly as to increase the temperature of the room after the radiator valves have been closed, and the large radiators heat up too slowly when steam is admitted. These large radiators also involve large concentrated heat areas which affect the nearby pupils and are otherwise objectionable. The best method provides for the use of only such an amount of direct radiation as will equalize or balance the heat losses thru the windows and exterior walls. This radiation should be divided into two or more small units distributed along the outside walls, preferably under the windows where they are most efficient in counteracting the cooling effect of the windows and outside walls, and where they are less likely to interfere with the use of the blackboards. It is desirable also that these radiators should be supported from the walls by means of brackets, with three inches between wall and radiator and five inches between the bottom of radiator and the floor. The radiator so located can be readily cleaned on all sides, as can the floor under the radiator.

The type of boilers to be used depends entirely upon the size of the building. Only the largest of buildings warrant the use of water tube boilers. Even in such cases the horizontal return fire tube boilers will be just as safe and economical and less expensive. Fire box boilers have many advantages for medium sized school buildings.

Cast iron sectional boilers, if of ample capacity, are satisfactory for small buildings. If combined with indirect blast coils special care must be exercised to see that the height from the water line in the boiler room to the bottom of the heating coils is not less than four feet.

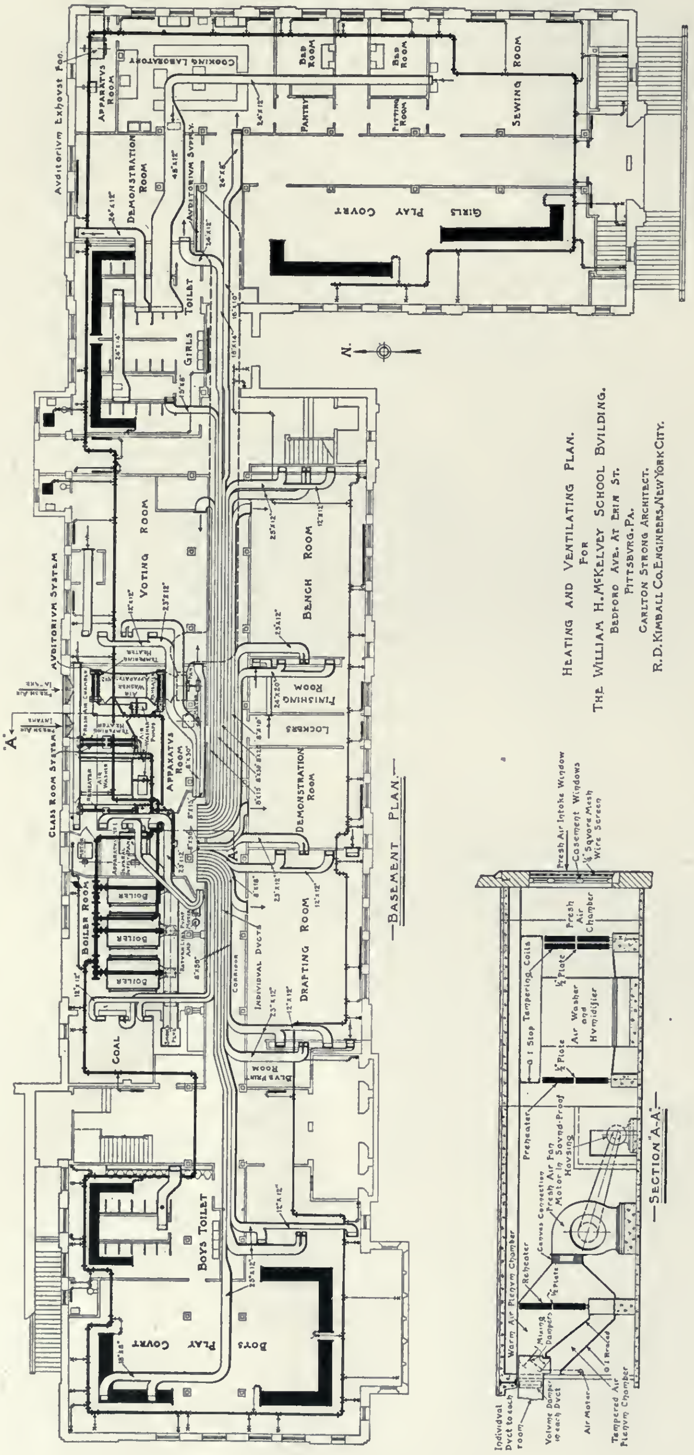
Fire box and cast iron sectional boilers are now made with double grates, the upper grate being a water grate and the lower grate of the usual type. These boilers are known as "down-draught" smokeless boilers, and are designed for the smokeless combustion of soft coal. They have proven very efficient, both in smoke prevention and in the economical use of fuel.

The general details of equipment and piping in school buiding heating and ventilating plants are very generally understood and will not be discussed here.

A separate system of steam piping should be installed for the direct radiators and for the indirect radiators or air heaters. This method will make possible the shutting off of all of the direct radiators in mild weather during the hours of occupancy.

The recent developments in vapor, atmospheric, modulating, and vacuum systems, as applied to school buildings, makes the use thereof highly desirable. By means of such systems the amount of steam admitted to each radiator can be moderated to meet exactly the demand for heat as influenced by the outdoor temperature. This overcomes the most serious objection to the steam heating system. Heretofore when the least heat was required, as in mild weather, the radiator valve was opened and the radiator was completely filled with steam, thus liberating into the room as much heat as would be required in zero weather. In these new systems only such an amount of steam is admitted to the radiator as is required to supply the heat necessary to maintain the desired temperature. These systems also have the further advantage of eliminating the use of air valves, which are a constant source of trouble.

The vapor systems are applicable to small buildings, but they require the use of radiators of very nearly the size required in hot water heating systems, while the atmospheric, modulating and vacuum systems require no larger radiators than do the old style gravity heating systems. These systems are applicable to buildings of all sizes. These systems all require special type of valves on the return end of the radiator and on the supply end of the radiator a special type of modulating or fractional steam admission valve is used. The increased cost of such systems is very slight (usually not over two to four per cent of the cost of the old style gravity systems). There are available many makes of valves applicable to such systems. The vacuum system involves the use of a vacuum pump, which is an inexpensive and simple device. In small buildings it may be operated by an electric motor. The saving of the cost of the



Avditorivm Exhavst Fan
Apparatvs Room
Cooking Laboratory
Bed Room
Bed Room
Pantry
Fitting Room
Sewing Room
Demonstration Room
Avditorivm Svpply
Girls Play Covrt
Girls Toilet
Voting Room
Bench Room
Finishing Room
Lockers
Demonstration Room
Drafting Room
Individval Dvcts
Corridor
Apparatvs Room
Boiler Room
Boiler
Boiler
Boiler
Coal
Boys Toilet
Boys Play Covrt
Avditorivm System
Class Room System
Fresh Air Intake
"A"
N.
Basement Plan
Fresh Air Intake Window
Casement Windows
¼" Square Mesh Wire Screen
Fresh Air Chamber
½" Plate
Tempering Coils
Air Washer and Hvmidifier
Preheater
Canvas Connection
Fresh Air Fan Motor in Sound-Proof Hovsing
Reheater
Warm Air Plenvm Chamber
Mixing Dampers
Individval Dvct to each room
Volvme Damper in each Dvct
Air Motor
Tempered Air Plenvm Chamber
Section "A-A"

Heating and Ventilating Plan.
For
The William H. McKelvey School Bvilding.
Bedford Ave. At Erin St.
Pittsbvrg, Pa.
Carlton Strong Architect.
R. D. Kimball Co. Engineers, New York City.

air valves, with the further saving made possible by a reduction in the size of the return piping system and its insulation, will go far towards covering the extra cost of the modulating and vacuum valves.

If systems involving the use of air valves are used these air valves should be of the drip line type only, with drip lines to basement outlet.

The source of air intake for the building should be such that the air will be free of any contaminating odors and dust. If the point of intake is surrounded by a well grassed lawn, and especially if air washers are used, little objection can be made to taking the air in at the grade level, but it should never be taken in at grade level off a street or play-court. The taking of the air from the roof level is to be commended. Possibly the best practice is to take the air from a level midway between the ground and roof, but not less than twenty feet above the ground, as the air will often be found freer of dust at this level than at the roof.

If a gravity system of ventilation is to be used the usual type of cast iron indirect radiators will be found satisfactory. In connection with fan systems of air supply the pipe coils specially made for the purpose, or the cast iron vento radiation, may be used. The methods of applying these heaters are varied and depend upon the building conditions.

Many types of fans are available for supplying and exhausting the air to and from school buildings. The most generally used, and the most satisfactory, are the steel plate fans. These may be either of the "paddle-wheel" type or of the new Multiblade pattern, the latter having the advantage of occupying less space and being more efficient in the consumption of electric current. The disc pattern and cone type fans should rarely be used and only where the air velocities and resistances existing are very low, inasmuch as this type of fan is capable of overcoming but a very limited resistance. Only in the smallest of school buildings should they be used.

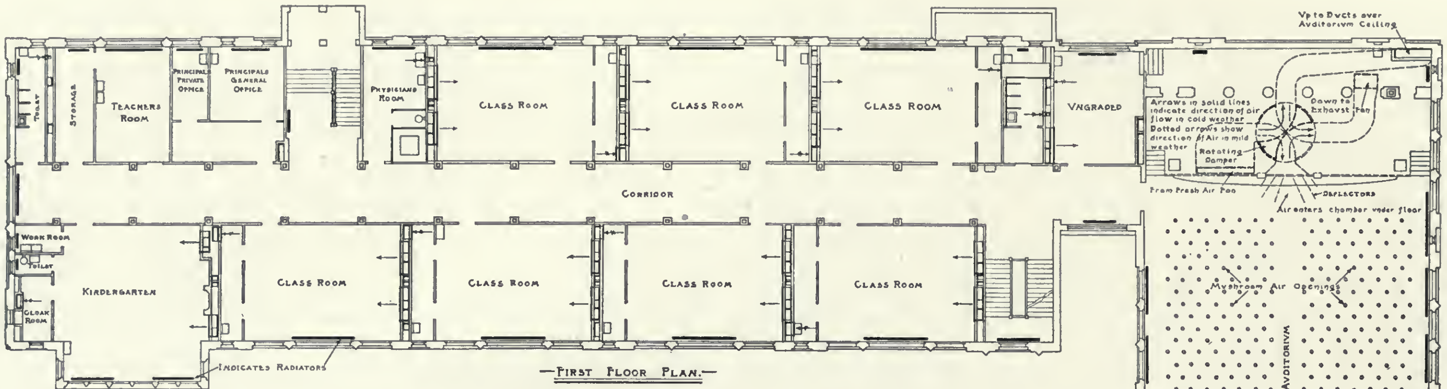
The installation of a number of small fan units is much preferable to the use of a less number of large fans. The installation and operation of the smaller units involve less complication in design and operation; a small system is always easier understood by the janitor, and a number of small plants rather than a single large plant will always be found a more flexible and satisfactory arrangement. Usually a sufficient saving in the cost of duct work is made to offset the slightly increased cost of a number of small units over the cost of a less number of large units. The use of small units permits of the distribution of same about the building in such a way as to involve less interference with the building construction and use of the basement.

The fresh air fans are generally placed in the basement, and the exhaust fans are usually placed in the attic space or in pent houses on the roof, altho they, too, may be placed in the basement.

Relatively few school ventilating plants include air washers, altho the proportion of new buildings which are so equipped is rapidly increasing. This is as it should be for the air washer has many advantages. It cleanses the air from dust and bacteria, making it cleaner than it can possibly otherwise be made and it makes possible the humidification of the air in the most efficient manner. The best types of air washers (those seven and nine feet long) make possible a limited amount of cooling in hot weather. Air washers are infinitely preferable to cloth screens of any type, inasmuch as they are much more efficient and more easily cared for. They are not complicated devices and are easily understood and operated by a janitor of ordinary intelligence. The cost of their installation adds but approximately ten per cent to the cost of the heating and ventilating installation in small school buildings and this increase in cost drops to five per cent in large school buildings. The cost of operation is very slight, as the same water is used over and over by means of a circulating pump for periods of one week to one month at a time, with only a slight amount of water added each day to make up for that evaporated; and the cost of electricity required to operate the motor driving the water circulating pump is small. The period of time during which the same water may be used over and over, depends upon the quality of the outside air.

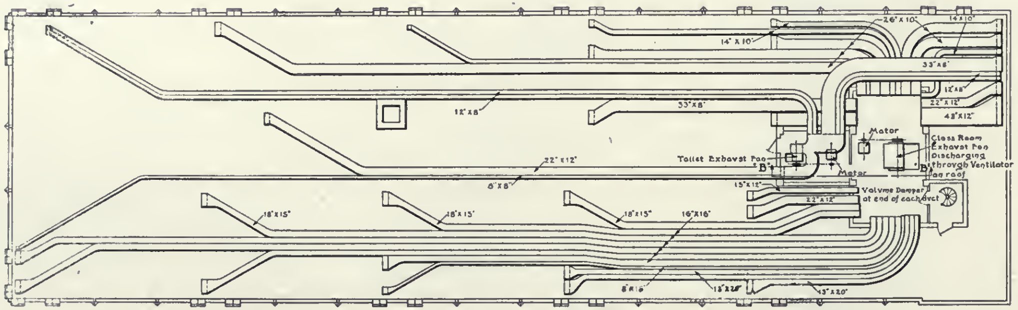
It is the author's opinion that the use of the air washer increases the efficiency of the ventilating plant by not less than twenty-five per cent. It is greatly to be regretted that a more general use is not made thereof. The desirability of clean, humidified air for the pupils in the schoolroom would seem to be so apparent as to demand the use of the air washers in every school building.

Another method of bringing about the artificial humidification of schoolrooms consists of an evaporating pan placed in the warm air chamber. This pan contains water in which is sub-

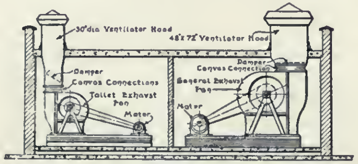

Vp to Dvcts over Avditorivm Ceiling
Toilet
Storage
Teachers Room
Principals Private Office
Principals General Office
Physicians Room
Class Room
Class Room
Class Room
Vngraded
Arrows in solid lines indicate direction of air flow in cold weather
Dotted arrows show direction of Air in mild weather
Rotating Damper
Down to Exhavst Fan
From Fresh Air Fan
Deflectors
Air enters chamber vnder floor
Corridor
Work Room
Toilet
Cloak Room
Kindergarten
Class Room
Class Room
Class Room
Class Room
Mvshroom Air Openings
Avditorivm
Indicates Radiators

—First Floor Plan.—

Heating and Ventilating Plan.
For
The William H. McKelvey School Bvilding.
Bedford Ave. At Erin St.
Pittsbvrg, Pa.
Carlton Strong Architect.
R. D. Kimball Co. Engineers, New York City.

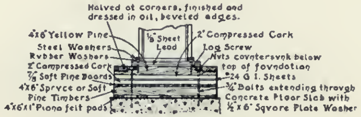

26" x 10"
14" x 10"
14" x 10"
33" x 8"
33" x 8"
12" x 8"
22" x 12"
48" x 12"
12" x 8"
Motor
Class Room Exhavst Fan Discharging through Ventilator on roof
Toilet Exhavst Fan
B
B
Motor
22" x 12"
8" x 8"
15" x 12"
22" x 12"
Volvme Damper at end of each dvct
18" x 15"
18" x 15"
18" x 15"
16" x 16"
8" x 16"
18" x 28"
13" x 20"

—Attic Plan.—
—Showing Exhavst Dvcts.—


30" dia Ventilator Hood
48" x 72" Ventilator Hood
Damper
Canvas Connections
Toilet Exhavst Fan
Motor
Damper
Canvas Connection
General Exhavst Fan
Motor

—Section "B-B".—

Heating and Ventilating Plan.
For
The William H. McKelvey School Bvilding.
Bedford Ave. At Erin St.
Pittsbvrg, Pa.
Carlton Strong Architect.
R. D. Kimball Co. Engineers, New York City.


Halved at corners, finished and dressed in oil, beveled edges.
4"x6" Yellow Pine
Steel Washers
Rvbber Washers
2" Compressed Cork
7/8" Soft Pine Boards
4"x6" Sprvce or Soft Pine Timbers
4"x6"x1" Piano felt pads
1/8" Sheet Lead
2" Compressed Cork
Log Screw
Nvts covntersvnk below top of fovndation
#24 G. I. Sheets
3/4" Bolts extending throvgh Concrete Floor Slab with 1/2" x 6" Sqvare Plate Washer

—Fovndations for Motors & Fans in Attic Space.—

merged a steam coil, the purpose of the latter being to evaporate the water, the vapor being liberated into the air passing thru the chamber to the schoolrooms. Attached to this tank is a float chamber automatically regulating the supply of water to replace that which is evaporated. The degree of humidification, in this case, as in the case of the air washer, is automatically controlled by means of a pneumatically operated humidostat, very similar in operation, to the thermostats used for temperature regulation.

The practice of producing artificial humidification by means of injecting steam directly into the air duct meets with very little favor, principally for the reason that in the majority of cases this method will produce an odor which is objectionable. The same objection applies to the method of spraying water on the steam air heaters, by which it is evaporated. The expense of artificial humidification is not affected by the method used.

In general, four methods are in use for distributing the air from the air heaters to the classrooms.

The first of these is incidental to the gravity system only, in which case the air goes directly from the indirect radiator into the base of the vertical flue leading to the classroom.

The second method is the single trunk duct system thru which the air is driven by the fan, this duct reducing in size as branches are taken off, with volume dampers placed at each branch connection or at the base of each flue. In the single trunk duct system mixing dampers cannot be used and this in itself is a serious objection to this system, there being available no method of varying the temperature of the air admitted to the room to meet the individual room requirements.

The third method is the double trunk duct system, in which an upper duct, of such a size as will carry the full amount of air required for ventilating the building, is paralleled with a duct directly beneath, of one-half to two-thirds the size of the upper duct. The upper duct carries air at the maximum temperature required for ventilating the rooms while the lower duct carries air at approximately twenty degrees less temperature. At the base of each heat flue, branches from both these ducts are joined together and at this point a mixing damper and a volume damper are installed. The mixing damper may be automatically or hand-controlled from the room, preferably automatically.

The fourth method is the individual duct system in which a separate duct is carried from the fan or plenum chamber directly to the base of the vertical flue which rises to the classroom. The plenum chamber is divided into upper and lower parts, the temperature of the air passing thru the upper chamber being slightly higher than that required for the ventilation of the rooms, and the temperature of the air in the lower chamber being approximately twenty degrees less. Connections are made from both of these chambers to the individual ducts with mixing dampers in each connection automatically controlled by a thermostat located in the schoolroom. In addition volume dampers are installed in each duct to regulate the volume of air supplied to each room.

By reference to the accompanying illustration showing the basement plan of the Wm. H. McKelvey School, of Pittsburgh, the general arrangement of such a system will be observed. In this case the air is taken thru windows into a fresh air chamber from which it passes thru tempering heaters, air washer and reheaters into the double plenum chamber. From there it is forced by a motor driven fan into the ducts, with connections from the upper, or hot air chamber, and the lower, or tempered air chamber. An individual duct runs to the base of each vertical flue communicating with the classrooms. Every mixing damper and every volume damper is placed directly at the plenum chamber, making for ease of adjustment and manipulation and assuring better attention on the part of the janitor. Such an arrangement is certainly more intelligible to the janitor.

The chief advantage of this system, however, lies in the fact that exactly the required volume of air at the exact temperature demanded by any and every individual room may be had, as required.

Manifestly a building has four sides. One or two sides may be subjected to the warming effect of the sun while the other sides of the building may be subjected to a severe cold wind. Under such conditions the rooms subjected to the cold wind and shade may require their air supply at a temperature as much as ten degrees higher than the room on the warm, sunny side. This demand is adequately met only by the individual duct system and it cannot be met by the trunk duct system in which air of the same temperature is supplied to every room. The direct radiators in the room cannot be properly depended upon to overcome this difference in temperature requirements for the reason that in the sunny rooms it may become necessary to admit the air into the classrooms at less than room temperature to prevent an excess temperature, while on the other side of the building the air must be admitted at several degrees above the room temperature in order to maintain the temperature desired. It may be claimed that the direct radiators should maintain the balance in heat requirements but this has not proven satisfactory in practice. It interferes with the separation of the heating and ventilating elements of the system. This is especially so in that the direct radiators should not be used during the school hours in mild weather and at such times the temperature of the room should be controlled by the regulation of the temperature of the air supply.

The installation of the individual duct system increases the cost of the ventilating system by two and one-half per cent in large buildings and five per cent in small buildings, but, inasmuch as results obtained are decidedly superior to those obtained in any other system by making it possible to meet every varied demand in the different rooms it is certainly well worth its cost. This system has little or no effect on the operating cost of the plant.

Many of the same results as credited to the individual duct system can be obtained by the use of the double duct system but at a very slight difference in cost of installation and with the serious objection that it involves a complicated system of duct work with mixing and volume dampers scattered all over the building. In many cases these dampers are necessarily placed in inaccessible positions; thus they are hard to get at and their location is often forgotten and more often neglected. For these reasons the system is much more difficult to maintain in an efficient condition and the results obtained are correspondingly less satisfactory.

Temperature controlling systems are very generally understood but they are unfortunately not as generally used as should be the case. The automatic temperature controlling system is too often regarded as a luxury when it should be regarded as a necessity. It not only results in fuel saving, equal to not less than ten per cent and possibly twenty per cent of the annual fuel bill, but more important still, it prevents excessive temperatures in the classrooms, which have been shown to produce injurious effects on the pupils. In this instance, as in other details, the welfare of the pupils should not be permitted to suffer for a saving of five to ten per cent on the cost of the heating and ventilating plant.

In some instances the temperature regulating system has been applied to the direct radiators only, or to the mixing dampers only, where both radiators and dampers are used. This is a serious mistake, for successful results in temperature regulation cannot be obtained where a part only of the heating elements are under automatic temperature regulation. In the case of such an omission one element of the heating and ventilating system is constantly working against, and upsetting the work of the other.

With the vapor, atmospheric, modulating and vacuum systems the use of the intermediate acting thermostat is most desirable because it regulates the supply of steam to the radiators and the movement of the mixing dampers in a graduated manner in accordance with the demands for heating. Thus, in mild weather but little steam is admitted to the radiator; and the position of the mixing damper is changed but slightly, with more steam being admitted to the radiator and a greater change in position of the mixing dampers occurring as the outside temperature becomes lower, the full quantity of steam being admitted to the radiator during extremely cold weather only. Such a method goes far toward eliminating the overheating of the room and the discomfiture of the pupils sitting near the radiator.

A great deal could be written concerning the location of the fresh air inlets and vitiated air exhaust openings in the schoolroom. This is the subject of a great deal of discussion but one general principle is thoroly agreed upon. The number and location of both fresh air and vent openings should be such as to secure a thoro diffusion of the air thru every portion of the classroom. It has been demonstrated that such results can be obtained with the usual practice of one or two fresh air openings on one side of the room eight feet above the floor with a single exhaust opening on the same side of the room at the floor. The air openings into the room should, as far as possible, be directed towards the windows or the openings should be located in one of the end walls as near as possible to the windows with the exhaust opening at the other end of the same wall near the floor.

Much has been written regarding the desirability of admitting the air thru or near the floor and exhausting it near the ceiling, but this has not been satisfactorily worked out as yet. Professor Bass has made extensive experiments in admitting the air directly in front of the face of the pupil and exhausting it at the ceiling while reducing the volume of air. This plan fails in the air bathing of the body in general. A further criticism of this experiment lies in

COST DATA ON SCHOOL BUILDINGS

BUILDING	DATE	CUBITURE	SQ. FT OF FLOOR AREA	NO. OF OCCUPANTS	COST OF BUILDING				COST OF HEAT. & VENT.				COST OF ELECT. SYST.				COST OF E. LIGHT. FIXT.				COST OF PLUMBING				COST OF VAC. CLEAN				COST OF ELEVATORS				PERCENTAGE CONTRACTS BEAR TO TOTAL COST OF BUILDING						
					TOTAL	per CU.FT.	per SQ.FT.	per OCC.	TOTAL	per CU.FT.	per SQ.FT.	per OCC.	TOTAL	per CU.FT.	per SQ.FT.	per OCC.	TOTAL	per CU.FT.	per SQ.FT.	per OCC.	TOTAL	per CU.FT.	per SQ.FT.	per OCC.	TOTAL	per CU.FT.	per SQ.FT.	per OCC.	TOTAL	per CU.FT.	per SQ.FT.	per OCC.	BLDG.	H&V	ELEC.	FIXT.	PLUM.	VAC.C.	ELEV.
WATT SCHOOL PITTSBURGH, PA.	1915	1,070,000	62530	700	$202,908	.189	3.24	289.85	$ 28,993	.027	.463	41.42	$ 5,575	.005	.089	7.96	$				$ 10,400	.01	.166	14.86	$				$ —	—	—	—		14.3	2.8	·	5.1		—
WASHINGTON SCH. E. ORANGE, N.J.	1914	375,000		480	88,652	.237		184.70	10,400	.027		21.70	1,733	.004		3.61	1000	.0027		2.08	3,518	.009		7.33					—	—	—	—		11.7	1.9	1.1	3.9		—
WM. H. MC KELVEY PITTSBURGH, PA.	1915	1,055,265	53,460	700	227,254	.215	4.25	324.65	28,949	.027	.542	41.36	5,990	.006	.112	8.56					13,575	.013	.254	19.39					—	—	—	—		12.7	2.6		6.0		—
COS COB SCH. GREENWICH, CONN.	1915	491,759	27,260	554	78,300	.159	2.89	141.33					1,400	.002	.051	2.52													—	—	—	—			1.7				—
JAS. E. ROGERS PITTSBURGH, PA.		1,197,000	56,675	700	233,613	.195	4.12	333.73	26,537	.022	.468	37.91	5,560	.005	.098	7.94					13,800	.012	.244	19.71										11.4	2.4		5.9		
WETHERSFIELD AVE HARTFORD, CONN.		975,500	53,280	600	190,275	.195	3.57	317.00	29,850	.03	.56	49.75	6,842	.007	.128	11.40					12,214	.013	.229	3.69	1.328	.001	.025	2.21						15.7	3.6		6.4	.7	
GLADSTONE PITTSBURGH, PA.		590,000	35,368	437	149,100	.253	4.21	341.11	14,960	.025	.423	34.23	3,370	.0057	.095	7.71					8,270	.014	.234	18.90					—	—	—	—		10.0	2.3		5.5		—
DILWORTH GRADE PITTSBURGH, PA		992,000	52,790	700	211,953	.214	4.01	302.80	22,673	.023	.43	32.39	5,135	.0052	.097	7.33					11,432	.012	.217	2.00					—	—	—	—		10.7	2.4		5.4		—
MONTCLAIR H.S. MONTCLAIR, N.J.		2,125,000	125,481	1500	424,010	.20	3.37	353.34	54,500	.026	.433	45.42	9,100	.004	.072	7.58					15,000	.007	.119	12.50					—	—	—	—		12.9	2.1		3.5		—
ELIZABETH H.S. ELIZABETH, N.J.	1915	1,662,700	102,356	1200	333,000	.20	3.25	277.50	34,949	.021	.341	29.13	8,822	.0053	.086	7.35					24,567	.014	.24	20.47					—	—	—	—		10.5	2.6		7.4		—
BRIDGEPORT H.S. BRIDGEPORT, CONN.	1915	2,016,000	117,633	1040	400,000	.198	3.40	384.60	41,000	.02	.349	39.42	6,680	.0033	.057	6.43					19,095	.009	.158	18.36					—	—	—	—		10.3	1.7		4.7		—
MERIDEN H.S. MERIDEN, CONN.		1,082223		1150	165,141	.152		143.60.	26,800	.024		23.30	7,780	.007		6.76	2,400	.0022		2.18	6,910	.006		6.00	1,151	.001	.021	1.00	—	—	—	—	72.8	16.2	4.7	1.4	4.2	.7	—
ALBANY H.S ALBANY, N.Y.		2,114,400	140,400	1218	593,262	.28	4.22	487.08	67,156	.032	.481	55.14	33,460	.0158	.023	27.47	9,000	.0042	.062	7.38	27,775	.013	.197	22.80										11.3	5.6	4.2	4.7		
MT. VERNON H.S. MT. VERNON, N.Y.	1914	1,367,300		805	252,874	.185		314.12	32,091	.024		39.86	6,500	.0048		8.07					14,500	.0106		18.01										12.7	2.4		5.7		
SOUTH SIDE H.S. NEWARK, N.J.	1913	1,800,000	100,600	1200	336,000	.186	3.34	280.00	53,000	.029	.526	44.16	13,775	.0077	.137	11.48	3825	.0021		3.18	12,000	.011		10.00	2,100	.002		1.75	—	—	—	—	75.08	15.5	4.1	1.1	3.6	62	—
ST. LOUIS H.S. ST. LOUIS, MO.		3,762,000	183,500	2500	666,000	.177	3.63	266.40	136,281	.036	.743	54.52	21800	.0068	.119	8.72					25,000	.0066	.136	10.00	4,850	.001	.026	1.94	2500	.0007	.015	1.00		20.5	3.2		3.7	.73	.37
GERMANTOWN DIST. H.S PHILAD. PA.		5,345,000	214,000	3000	784,954	.146	3.66	261.70	97,527	.019	.456	32.51	30,000	.0056	.14	10.00					21,000	.0039	.098	7.00	1,600	.0003	.007	.53						12.3	3.6		2.7	.22	
SCHENLEY H S. PITTSBURGH, PA.		4,500,000	265,300	1800	970,126	.216	3.66	538.90	150,863	.033	.569	83.81	35,900	.008	.135	19.94					42,263	.0094	.159	23.48					6,000	.0013	.022	3.33		15.5	3.7		4.4		61
H S OF COMMERCE SPRINGFIELD MASS		3,195,000	195,000	1600	663,444	.208	3.40	414.60	92,744	.029	.476	57.96	25,517	.008	.131	15.95					32,000	.01	.164	20.00	1,700	.0005	.008	1.05						14.0	3.8		4.8	.25	
NEW BEDFORD H.S. NEW BEDFORD, MASS.		1,450,000	93,500	1200	481,222	.332	5.14	401.03	42,300	.029	.452	32.25	10,969	.0076	.117	9.14					34,753	.024	.372	28.96	3,200	.002	.034	2.66						8.8	2.2		7.2	.66	
H.S. OF PRACTICAL ARTS BOSTON, MASS		1,222,900	68,250	1000	300,850	.246	4.41	300.85	23,390	.019	.343	23.39	22,346	.018	.327	22.35					14,926	.012	.219	14.93										7.8	7.4		5.0		
NATICK H S NATICK, MASS.		658,600	39,450	500	95,745	.145	2.43	191.50	14,490	.022	.367	28.98	2,250	.0034	.057	4.50					4,480	.0068	.114	8.96	900	.001	.023	1.80						15.1	2.4		4.7	.09	
SALEM H.S SALEM, N.J		352,464		367	60,520	.171		161.60	7,900	.022		21.52	986	.002		2.70					2,109	.005		5.75					—	—	—	—		13.2	1.6		3.5		—
VOCAT'L SCHOOL FRANKLIN, N.J.		443,858		450	58,797	.132		130.66	.6,872	.015		15.27	1,247	.002		2.77					2,496	.005		5.54					—	—	—	—		11.5	2.1		4.2		—
MARBLEHEAD H S. MARBLEHEAD, MASS.		583,600	36,850	300	107,013	.183	2.90	356.70	12,784	.022	.347	42.61	5,311	.009	.144	17.70					7,100	.012	.193	23.67										11.9	5.0		6.6		
HARTFORD H.S HARTFORD, CONN.		1,888,000	89,880	1000	419,082	.222	4.66	419.08	68,382	.036	.76	68.38	9550	.005	.106	9.55					14,150	.0075	.157	14.15										16.3	2.3		3.4		
CENTRAL H.S. NEWARK, N.J.	1911	2,683,000		1400	571,000	.213		407.86	50,848	.019		36.32					3,200	.0012		2.28	22,222	.008		15.89	1,667	.001		1.78	—	—	—	—		8.9		52	3.9	.29	—
EAST SIDE H.S NEWARK, N.J.	1911	1,074,000		600	249,883	.232		416.47	31,738	.03		52.87	12,464	.012		20.77	2,691	.0025		4.48	12,783	.012		21.30	1,347	.001		2.24	—	—	—	—	75.58	12.7	5.0	1.08	5.1	.54	—
NORMAL NEWARK, N.J.	1912	1,148,000		560	247,077	.215		441.21	30,770	.027		54.94	5,200	.005		9.28	4,587	.004		8.19	7,843	.007		14.00	1,014	.001		1.81	—	—	—	—	79.74	12.7	2.1	1.84	3.2	.42	—
CLEVELAND NEWARK, N.J.	1912	1,164,000		1665	241,222	.207		144.88	27,840	.024		16.66	4,096	.004		2.46	1,880	.0016		1.13	6,990	.006		4.19	1,062	.001		.66	—	—	—	—	82.78	11.4	1.7	.78	2.9	.44	—
RIDGE NEWARK, N.J.	1911	682,600		770	115,556	.169		160.49	14,240	.021		18.62	2,297	.003		2.98	1,470	.0021		1.90	4,085	.006		5.30	998	.001		1.30	—	—	—	—	80.3	12.3	1.9	1.15	3.5	.85	—
WEBSTER NEWARK, N.J.	1911	687,000		720	122,860	.178		170.64	13,400	.02		18.61	2,415	.004		3.35	1,590	.0023		2.20	6,250	.009		8.68	1,100	.002		1.52	—	—	—	—	77.97	12.1	2.0	1.43	5.6	.90	—
MONTGOMERY NEWARK, N.J.	1911	769,000		1035	140,973	.183		136.21	14,450	.018		14.00	2,623	.003		2.53	1,663	.0021		1.60	5,987	.008		5.79	1,000	.001		.96	—	—	—	—	83.51	10.3	.9	1.19	4.2	.71	—
PESHINE NEWARK, N.J.	1911	592,700		630	105,343	.178		167.21	11,793	.02		18.72	2,598	.004		4.12	1,430	.0024		2.20	4,490	.008		7.11	1,164	.002		1.84	—	—	—	—	79.14	11.2	2.4	1.36	4.2	1.10	—
WEST SIDE NEWARK, N.J.	1911	670,000		765	115,092	.171		150.45	12,600	.019		16.40	2,690	.004		3.51	1450	.0021		1.89	4,980	.007		6.51	969	.001		1.26	—	—	—	—	80.3	11.0	2.3	1.26	4.3	.84	—
LAFAYETTE NEWARK, N.J.	1910	550,200		675	125,313	.228		185.64	14,592	.027		21.61	2,534	.005		3.75					5,018	.009		7.13					—	—	—	—		11.6	2.0		4.0		—

COST DATA ON HEATING AND VENTILATING SYSTEMS.

the fact that the results obtained were compared with the results obtained in another classroom ventilated in the ordinary manner, with satisfaction expressed because the results appeared to be practically the same in both rooms altho a reduced volume of air was supplied in the experimental room. It seems to the author that the results aimed at should be to determine how much better results might be obtained with the individual air openings and usual amount of air supplied as compared with the ordinary fresh air inlet and single exhaust.

Professors Winslow and Baskerville studied this problem of air diffusion in classrooms of the New York City schools and found therein satisfactory results with the standard methods of classroom air distribution.

The problem of air diffusion becomes much more serious in large rooms, and especially in auditoria. In the latter the general rule should prevail that no member of the audience should be further than thirty feet from a fresh air inlet and air exhaust, with special attention given to the spaces under the galleries. The application of such a rule would eliminate many of the complaints made regarding auditorium ventilation. Where the seats are permanently fixed the best results can be obtained by exhausting the air thru the floor by means of mushroom openings and supplying the air thru openings in the walls or in the ceiling. The reason for urging the exhaust of the air thru the floor, rather than the supply of air thru the floor, is that in order to prevent excess temperature in the room air must be admitted at ten to fifteen degrees less than room temperature. Air at such a low temperature cannot be admitted in the immediate vicinity of the person without producing a serious chilling effect. In warm weather, when the outside air is of a higher temperature and the immediate relief of heat is essential, it is desirable to reverse the direction of the air current so that the air may come up thru the floor, pass up over the body, and go out at the ceiling. Such a reversal of the ventilating system can easily be made by the use of a reversing damper, as illustrated on the first floor plan of the school building ventilating system shown herewith. By reference to this print it will be observed that the air for the auditorium leaves the fresh air fan and enters one side of the reversing damper, leaving in such direction as to pass to the space over the auditorium ceiling, thence down into the room thru openings in the ceiling. It leaves the room thru mushroom openings in the floor and passing thru ducts to the rotating damper at one side, leaving it at the other side, thence passing to the exhaust fan. In mild weather, when it is desired to reverse the direction of the air current the damper is changed in position 90 degrees and the air is then directed from the fresh air fan to the space under the floor from which it enters the auditorium thru the mushroom openings, passing upward over the people to the outlets in the ceiling, from which it is drawn by the ducts down to the rotating damper, entering one side thereof and leaving the other side to the exhaust fan. Practically no complication is involved in such a scheme and by its use all the advantages of the upward and downward system of ventilation may be had at will.

An extensive study of the space requirements for ventilation plants has been made, under the direction of the author, in connection with forty school buildings, with the result that it has been found that approximately one and one-quarter square feet of floor area is required in the boiler room per thousand cubic feet of contents of the building, with approximately the same allowance for fuel supply. The space required for the fresh air plant, that is, the fans, heaters, air washers, motors, etc., varies from one square foot to one and one-half square feet per thousand cubic feet of space in the building, while the space required for the exhaust air plant is approximately half of that required for the fresh air plant. The height of these spaces depends upon the size of the building and its apparatus, varying from seven to fourteen feet for the fan rooms and from twelve to twenty feet for the boiler rooms. Usually the floor of the boiler room must be from two to eight feet below the level of the floor of the fresh air heater rooms, unless vacuum heating systems are used.

The usual size of the fresh air and exhaust flues for each standard forty pupil classroom is found to be four square feet in area in both the fresh air and vent flue, altho a number of systems are designed with three square feet of fresh air and vent flue areas each. These areas are increased or decreased as the number of pupils per room is increased or decreased.

Similarly a study of the cost of the installation of heating and ventilating plants was made in the same schools. It was found that the prevailing custom of apportioning a certain percentage of the total cost of the building for the installation of the heating and ventilating plant is of no value as these percentage ratios vary more than one hundred per cent, even with similar classes of installations. For a given size of building the cost of the heating and ventilating system will be approximately the same whether the building is a monumental stone structure or a plain wooden structure, but the percentage of cost of the system will be very different.

As a result of this study the following scheme of classification has been arrived at:

Class "A"—Plants providing for fire tube boilers, double fan systems, air washers and humidifiers, individual or double duct systems and modulating control of direct radiators and mixing dampers.

Class "B"—Same as Class "A" but using automatic stokers and water tube boilers instead of the fire tube boilers.

Class "C"—Same as Class "A" but eliminating the modulation control of radiators and dampers and using the single trunk ducts.

Class "D"—Same as Class "C", except that it eliminates the use of air washers and humidification systems.

Class "E"—All other systems.

Manifestly there are many combinations of equipment which render an exact determination of classification difficult, but in general this classification has proven satisfactory.

After a careful study of this method of classification and the figures on costs as thus obtained, it was found that the only satisfactory basis of determining the cost of the installation of the heating and ventilating plant was on the basis of the cubic feet of space in the building. The variation in costs within the different classes of systems is rarely over ten per cent from the average, the greatest variation occurring in Class "A." The resulting costs are as follows:

Class A, cost of plant per cu. ft. 2.7c to 3.3c—average 3.1c.

Class B, cost of plant per cu. ft. 3.3c to 3.8c—average 3.4c.

Class C, cost of plant per cu. ft. 2.2c to 2.5c—average 2.4c.

Class D, cost of plant per cu. ft. 2.2c to 2.3c—average 2¼c.

Class E, cost of plant per cu. ft. 1.9c to 2.2c—average 2.1c.

If classes D and E were but abandoned and a proper amount of skill were used in the design, installation and operation of the remaining classes, a sufficient appropriation being provided for the installation and operation of the ventilating plant, it is believed that little basis would be left for complaint as to the success of the artificial ventilating system.

Classes D and E are the result of a too limited appropriation, a demand for too large a building for the funds available, too much ornamentation, or too much equipment, or, in other words, an attempt to build a $100,000 building with a $75,000 appropriation, the greatest sacrifice being made in connection with the heating and ventilating plant. Better were a proper building, well equipped, even tho smaller.

The author is encouraged to believe that a more general appreciation of these facts and of the possibilities of the artificial ventilating system is now manifesting itself.

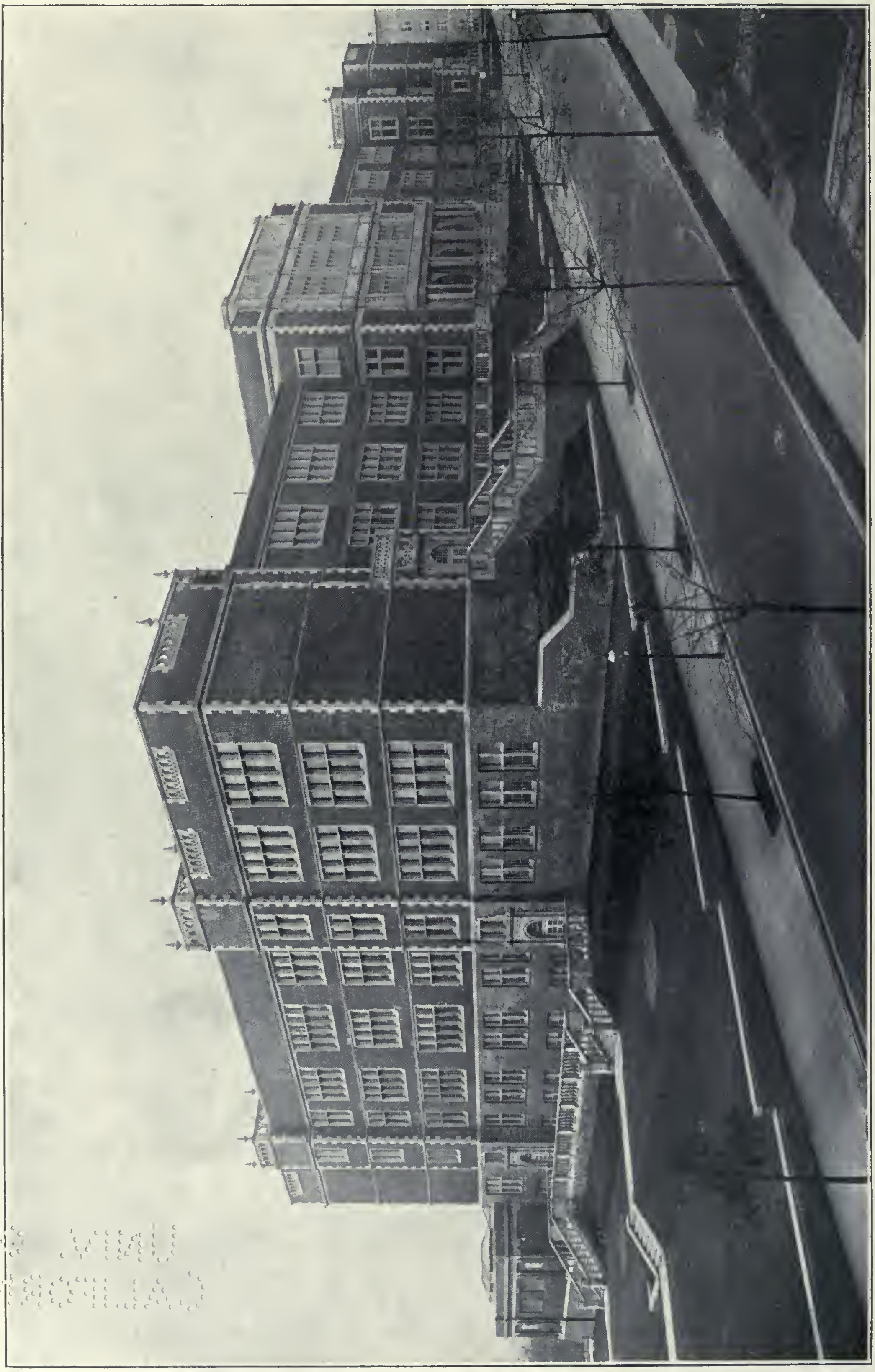
As a matter of information it is interesting to note that the cost of the plumbing equipment for school buildings ranges from three-quarters of a cent to one and one-half cents per cubic foot, the average being one and one-tenth cents. The cost of electric equipments, exclusive of electric power plants, ranges from one-half to one cent per cubic foot, the average being seven-tenths cents per cubic foot.

In the case of the heating and ventilating, plumbing and electrical work, the costs seem to be approximately the same in grade schools and high schools.

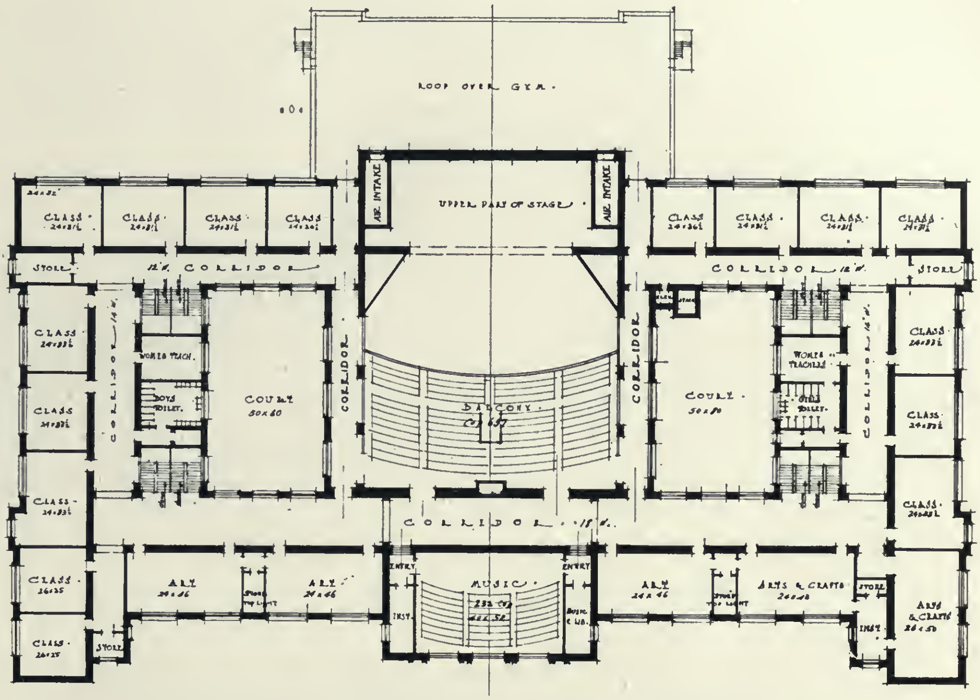
The appended table gives in detail the cost of various portions of a number of school buildings.

PLATES

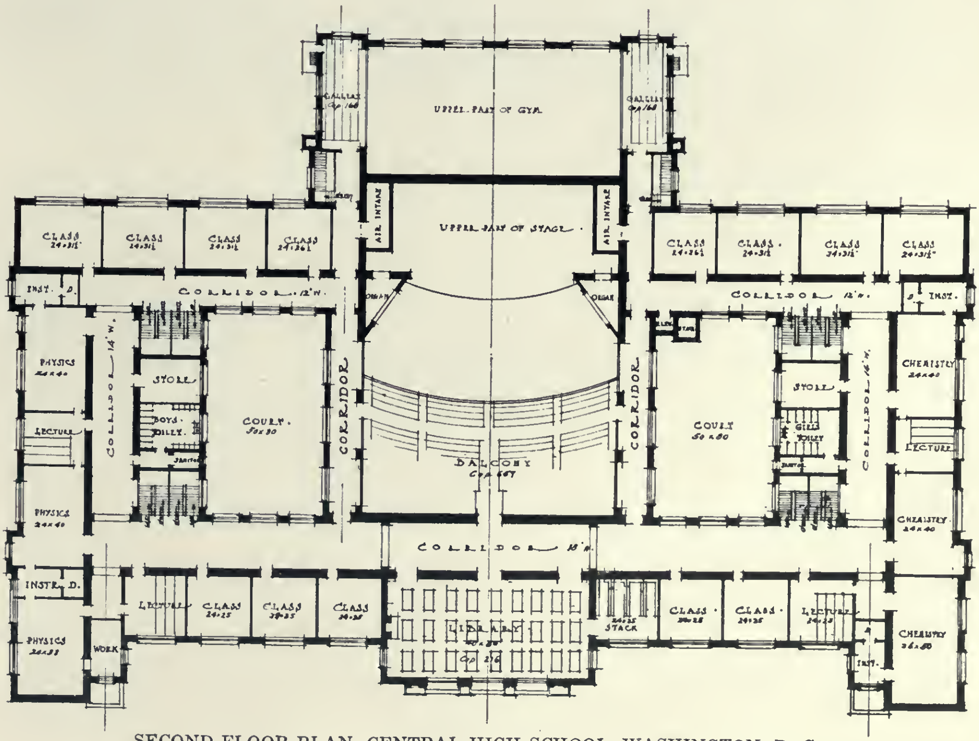
UNIV. OF
CALIFORNIA



CENTRAL HIGH SCHOOL, WASHINGTON, D. C.
William B. Ittner, Architect, St. Louis, Mo.
Snowden Ashford, Municipal Architect, Washington.

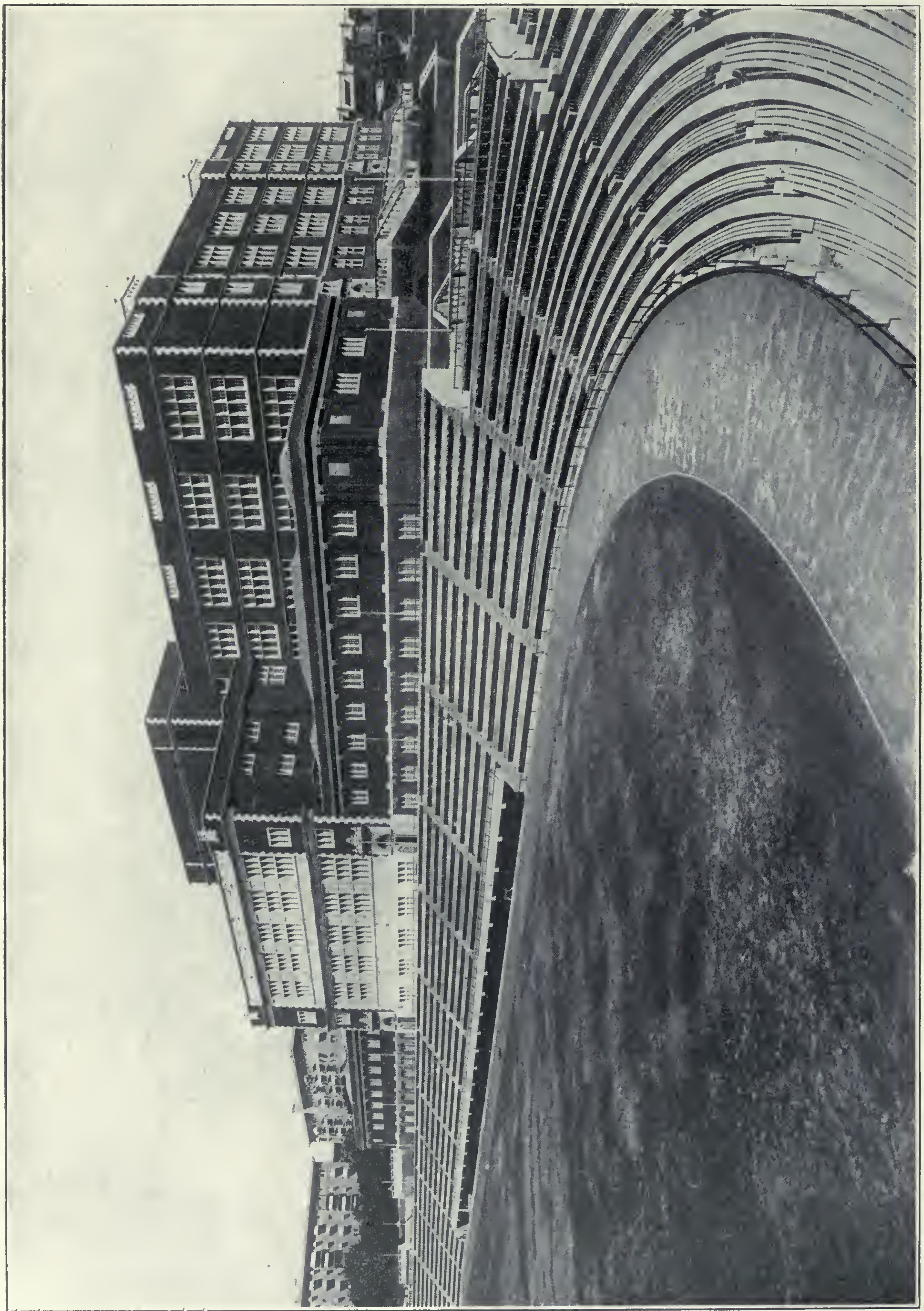

ROOF OVER GYM.
UPPER PART OF STAGE
AIR INTAKE
AIR INTAKE
CLASS
STORE
CORRIDOR 12 W.
CORRIDOR 14 W.
COURT 50x80
WOMEN TEACH.
BOYS TOILET
WOMEN TEACHERS
GIRLS TOILET
CORRIDOR
BALCONY
CORRIDOR 18 W.
ART 24x46
MUSIC
ENTRY
INST.
ARTS & CRAFTS
ARTS & CRAFTS

THIRD FLOOR PLAN, CENTRAL HIGH SCHOOL, WASHINGTON, D. C.

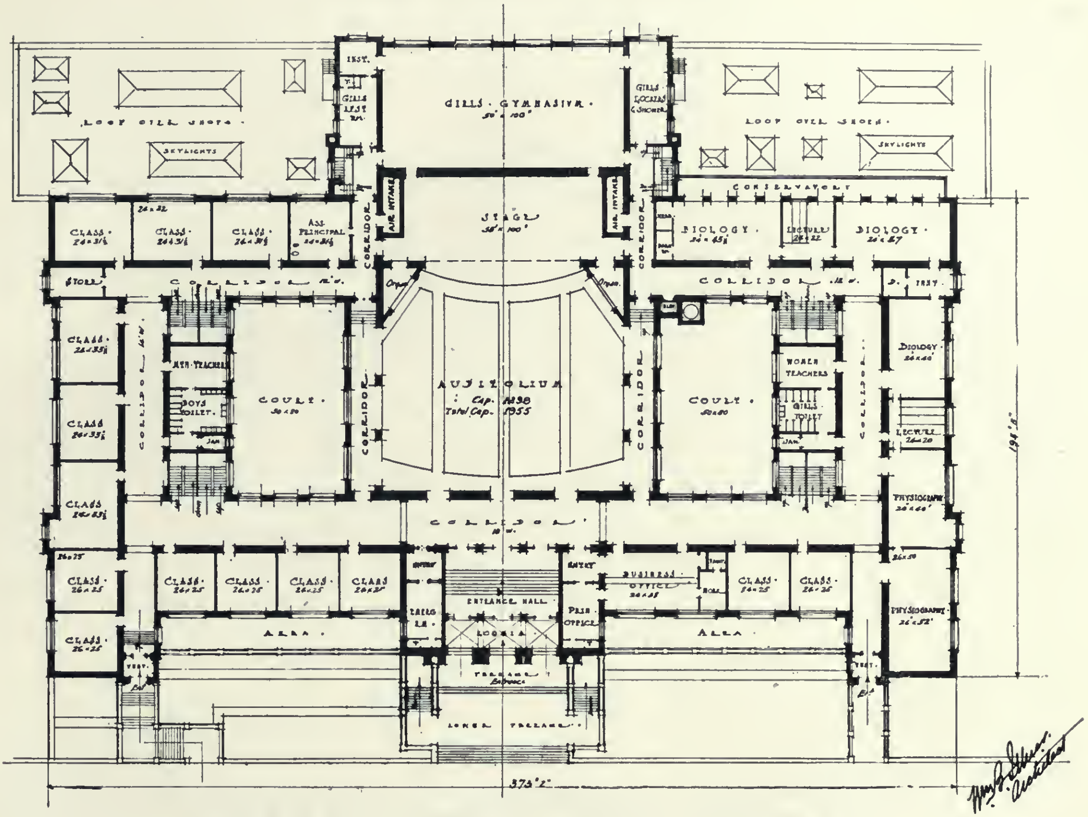

UPPER PART OF GYM.
GALLERY Cap 160
GALLERY Cap 160
UPPER PART OF STAGE
AIR INTAKE
AIR INTAKE
ORGAN
ORGAN
CLASS
CORRIDOR 12 W.
CORRIDOR 14 W.
INST.
PHYSICS 24x40
LECTURE
STORE
BOYS TOILET
COURT 50x80
CORRIDOR
BALCONY Cap 657
GIRLS TOILET
CHEMISTRY 24x40
CORRIDOR 18 W.
INSTR. D.
WORK
LIBRARY Cap 216
STACK
CHEMISTRY

SECOND FLOOR PLAN, CENTRAL HIGH SCHOOL, WASHINGTON, D. C.

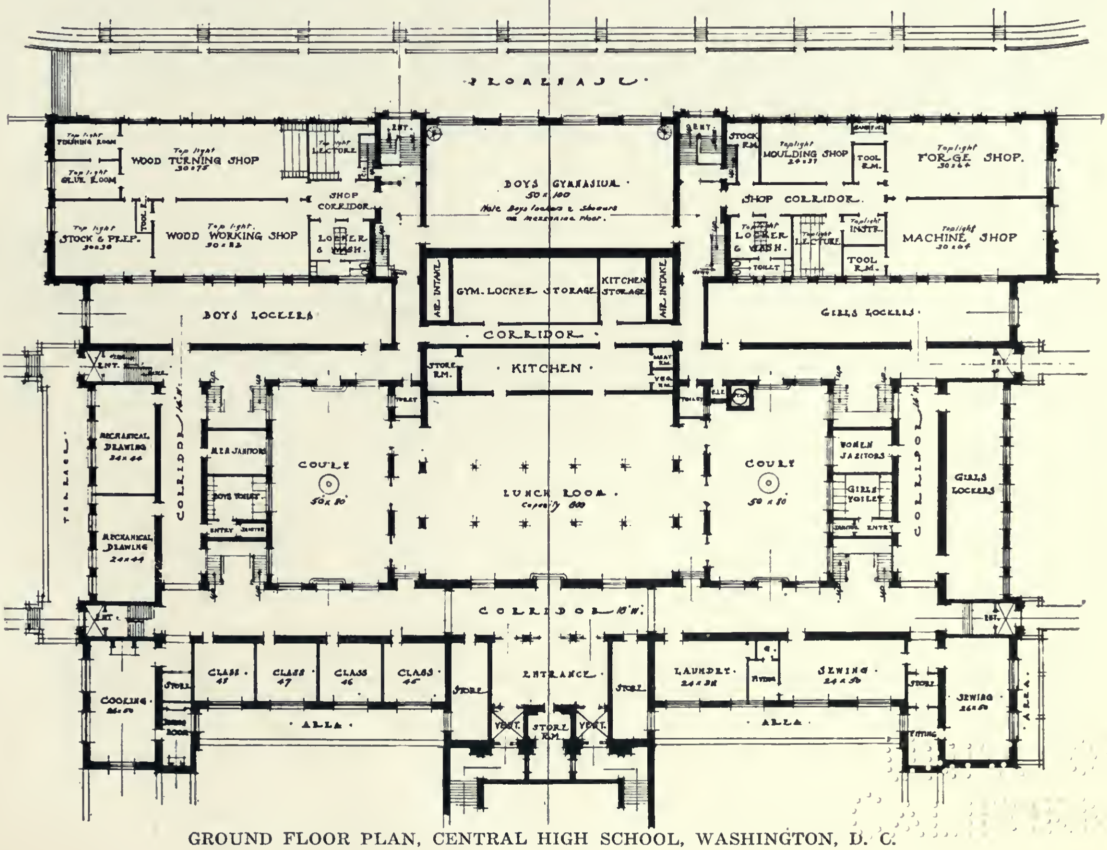
UNIV. OF CALIFORNIA



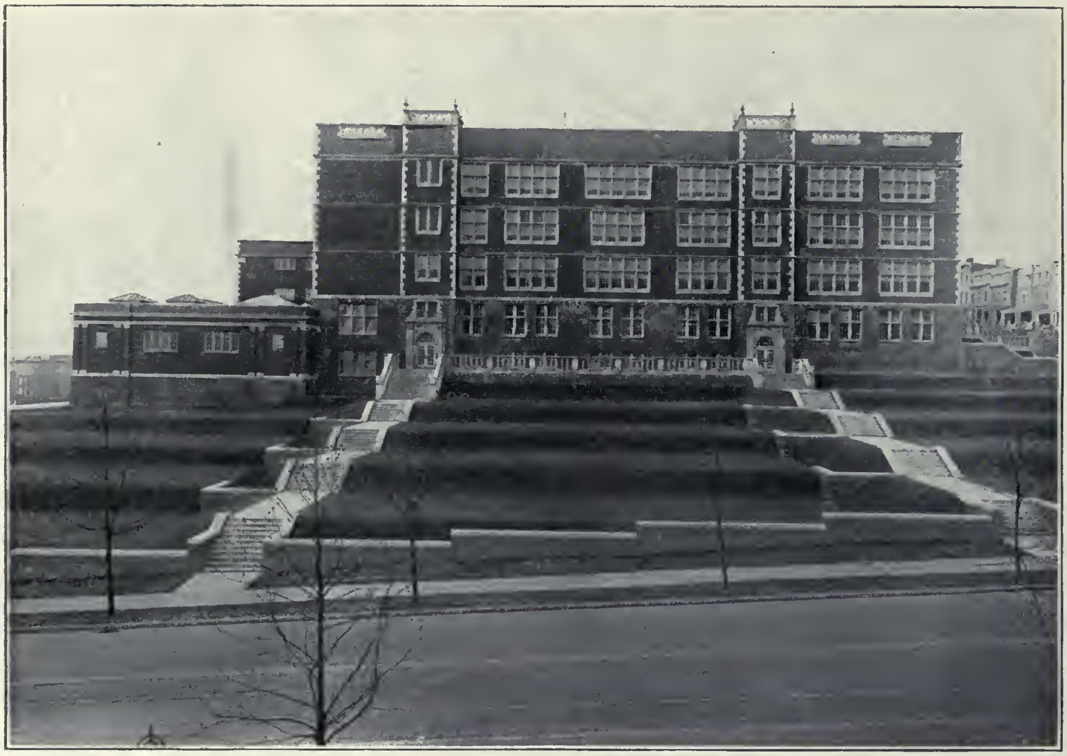
STADIUM FRONT, CENTRAL HIGH SCHOOL, WASHINGTON, D. C.
William B. Ittner, Architect, St. Louis, Mo.
Snowden Ashford, Municipal Architect, Washington, D. C.


GIRLS · GYMNASIUM · 50' x 100'
STAGE 38' x 100'
AUDITORIUM
Cap. 1238
Total Cap. 1355
ROOF OVER SHOPS
SKYLIGHTS
CONSERVATORY
BIOLOGY
LECTURE
CLASS
ASS. PRINCIPAL
CORRIDOR
AIR INTAKE
COURT 50 x 80
MEN TEACHERS
BOYS TOILET
WOMEN TEACHERS
GIRLS TOILET
PHYSIOGRAPHY
ENTRANCE HALL
LOGGIA
TERRACE
LOWER TERRACE
BUSINESS OFFICE
PRIN. OFFICE
AREA
VEST.
375'2"
194'2"

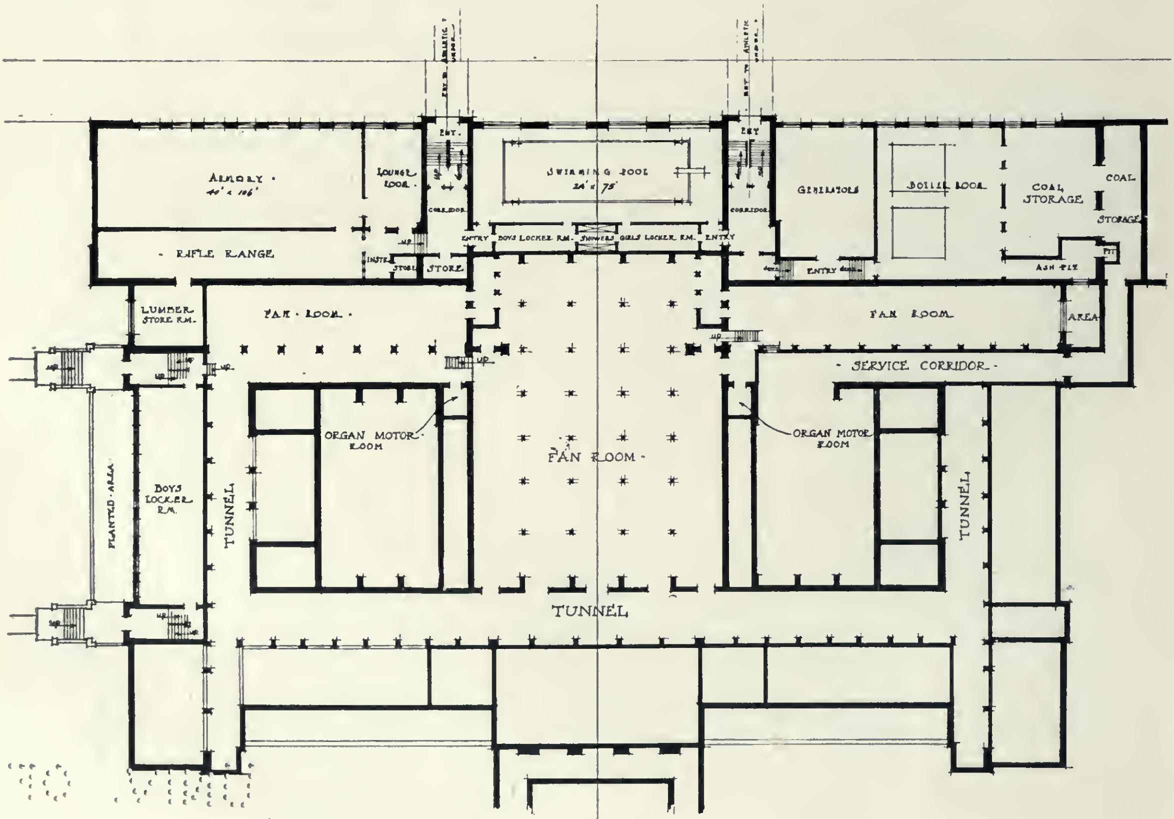
FIRST FLOOR PLAN, CENTRAL HIGH SCHOOL, WASHINGTON, D. C.


BROADWAY
TURNING ROOM
WOOD TURNING SHOP 30 x 75
GLUE ROOM
LECTURE
STOCK & PREP. 30 x 30
WOOD WORKING SHOP 30 x 82
SHOP CORRIDOR
LOCKER & WASH.
BOYS GYMNASIUM 50 x 100
Note Boys lockers & showers on mezzanine floor.
STOCK RM.
MOULDING SHOP
TOOL RM.
FORGE SHOP.
MACHINE SHOP
INSTR.
GYM. LOCKER STORAGE
KITCHEN STORAGE
AIR INTAKE
BOYS LOCKERS
GIRLS LOCKERS
CORRIDOR
KITCHEN
STORE RM.
MECHANICAL DRAWING 24 x 44
MEN JANITORS
BOYS TOILET
COURT 50 x 80
LUNCH ROOM Capacity 800
WOMEN JANITORS
GIRLS TOILET
TERRACE
COOKING
CLASS 48
CLASS 47
CLASS 46
CLASS 45
ENTRANCE
LAUNDRY
SEWING
AREA
VEST.
STORE RM.

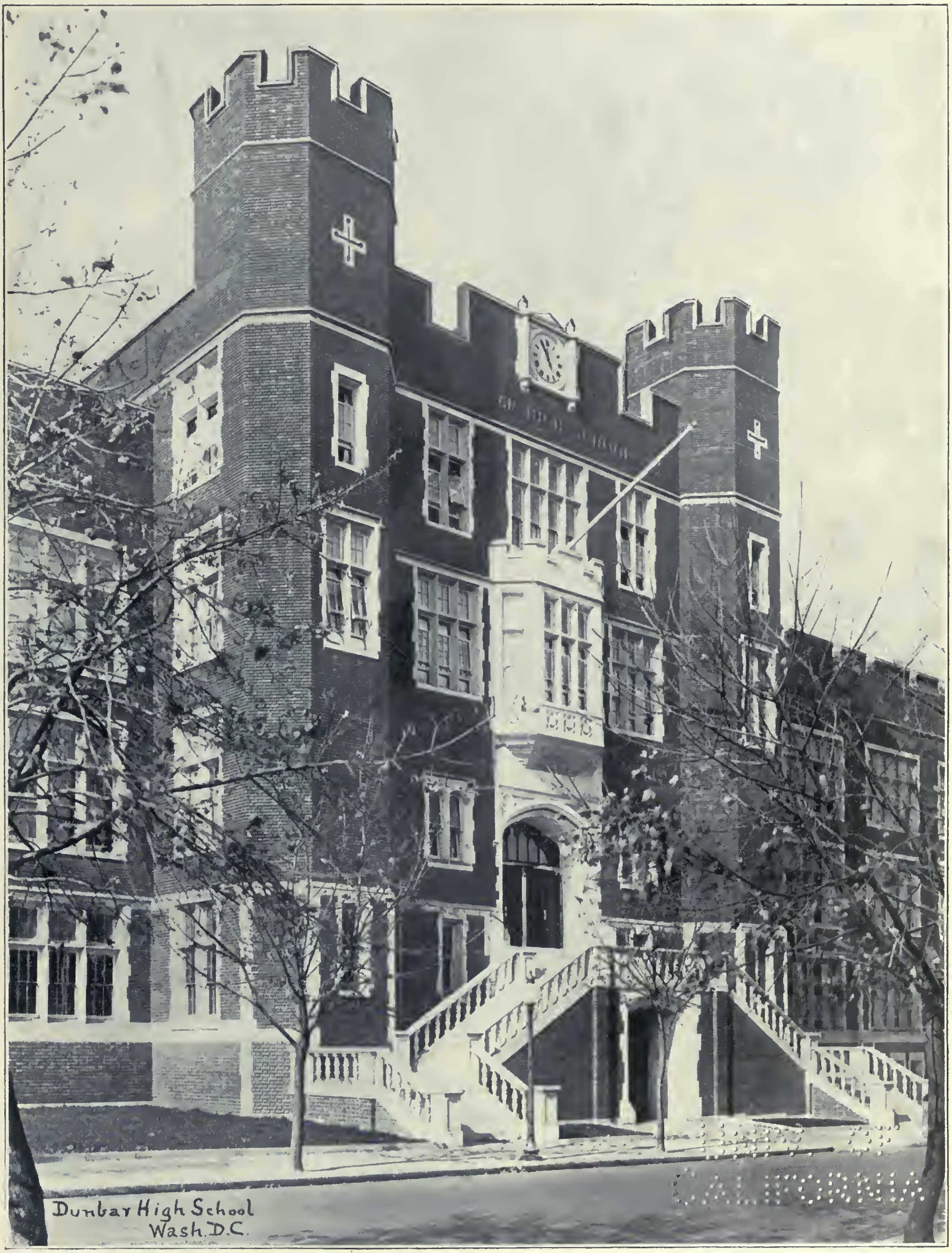
GROUND FLOOR PLAN, CENTRAL HIGH SCHOOL, WASHINGTON, D. C.



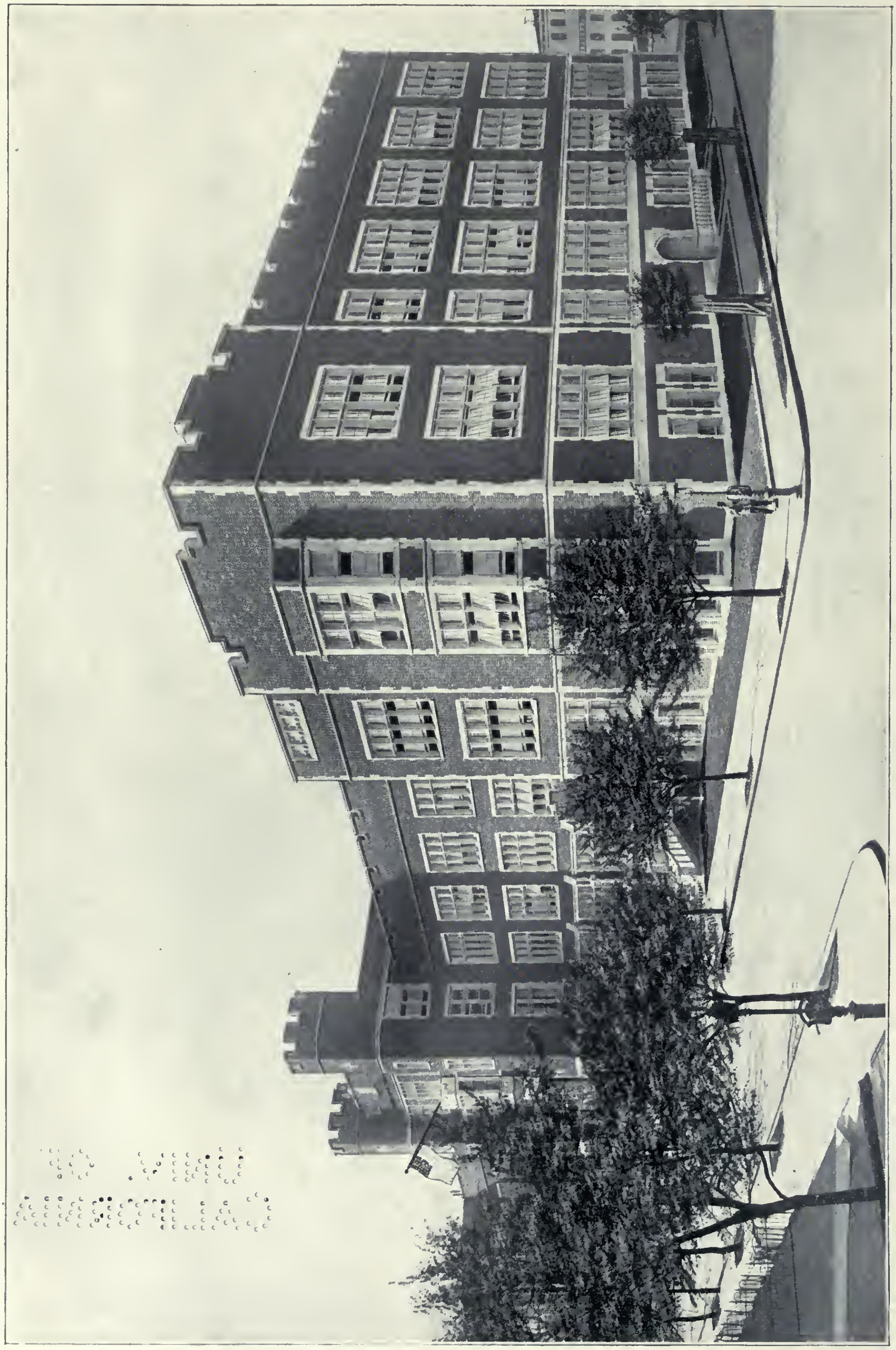
SIDE VIEW, CENTRAL HIGH SCHOOL, WASHINGTON, D. C.


ENT. TO ATHLETIC FIELD
ENT. TO ATHLETIC FIELD
ARMORY
40' x 106'
LOUNGE ROOM
ENT.
SWIMMING POOL
24' x 75'
ENT.
GENERATORS
BOILER ROOM
COAL STORAGE
COAL STORAGE
CORRIDOR
CORRIDOR
ENTRY
BOYS LOCKER RM.
SHOWERS
GIRLS LOCKER RM.
ENTRY
RIFLE RANGE
INSTR.
STORE
STORE
ENTRY
ASH PIT
PIT
LUMBER STORE RM.
FAN ROOM
FAN ROOM
AREA
UP
SERVICE CORRIDOR
ORGAN MOTOR ROOM
ORGAN MOTOR ROOM
FAN ROOM
PLANTED AREA
BOYS LOCKER RM.
TUNNEL
TUNNEL
TUNNEL

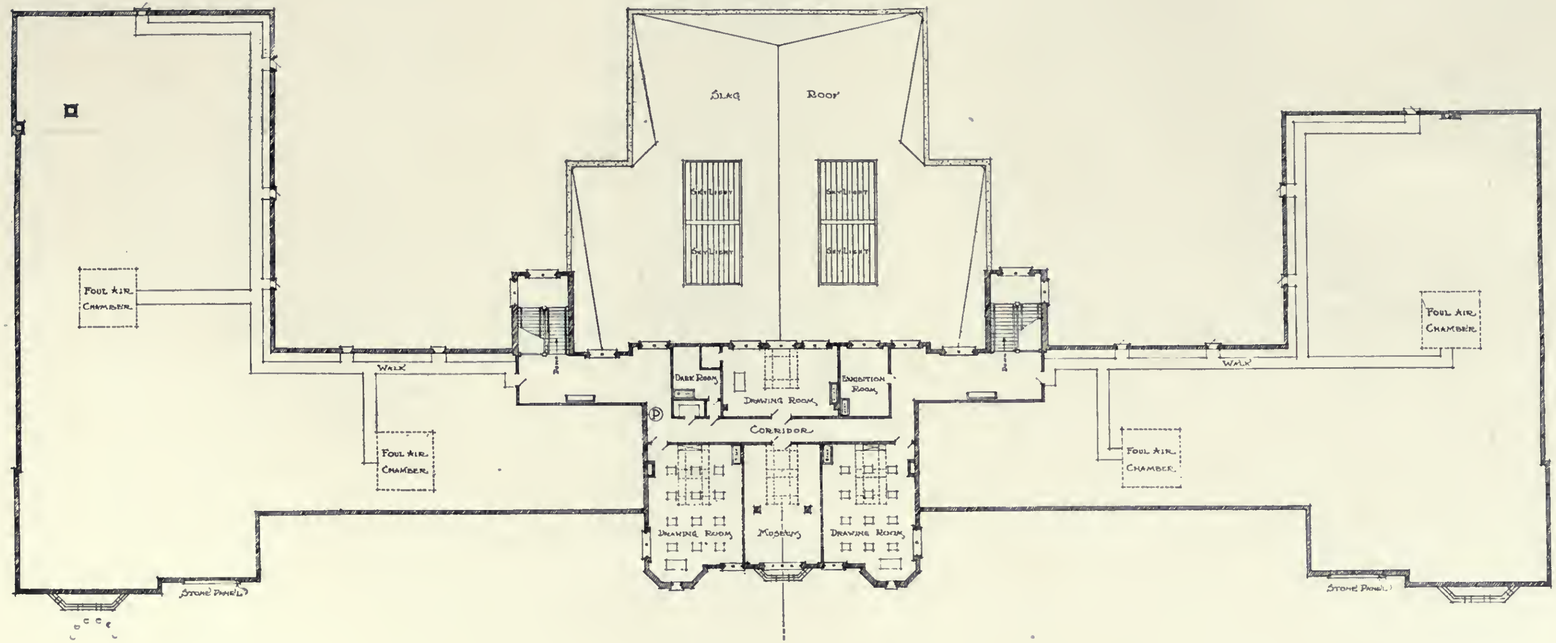
BASEMENT PLAN, CENTRAL HIGH SCHOOL, WASHINGTON, D. C.


Dunbar High School
Wash. D.C.

DETAIL OF THE MAIN ENTRANCE, DUNBAR HIGH SCHOOL, WASHINGTON, D. C.
Snowden Ashford, Municipal Architect, Washington, D. C.

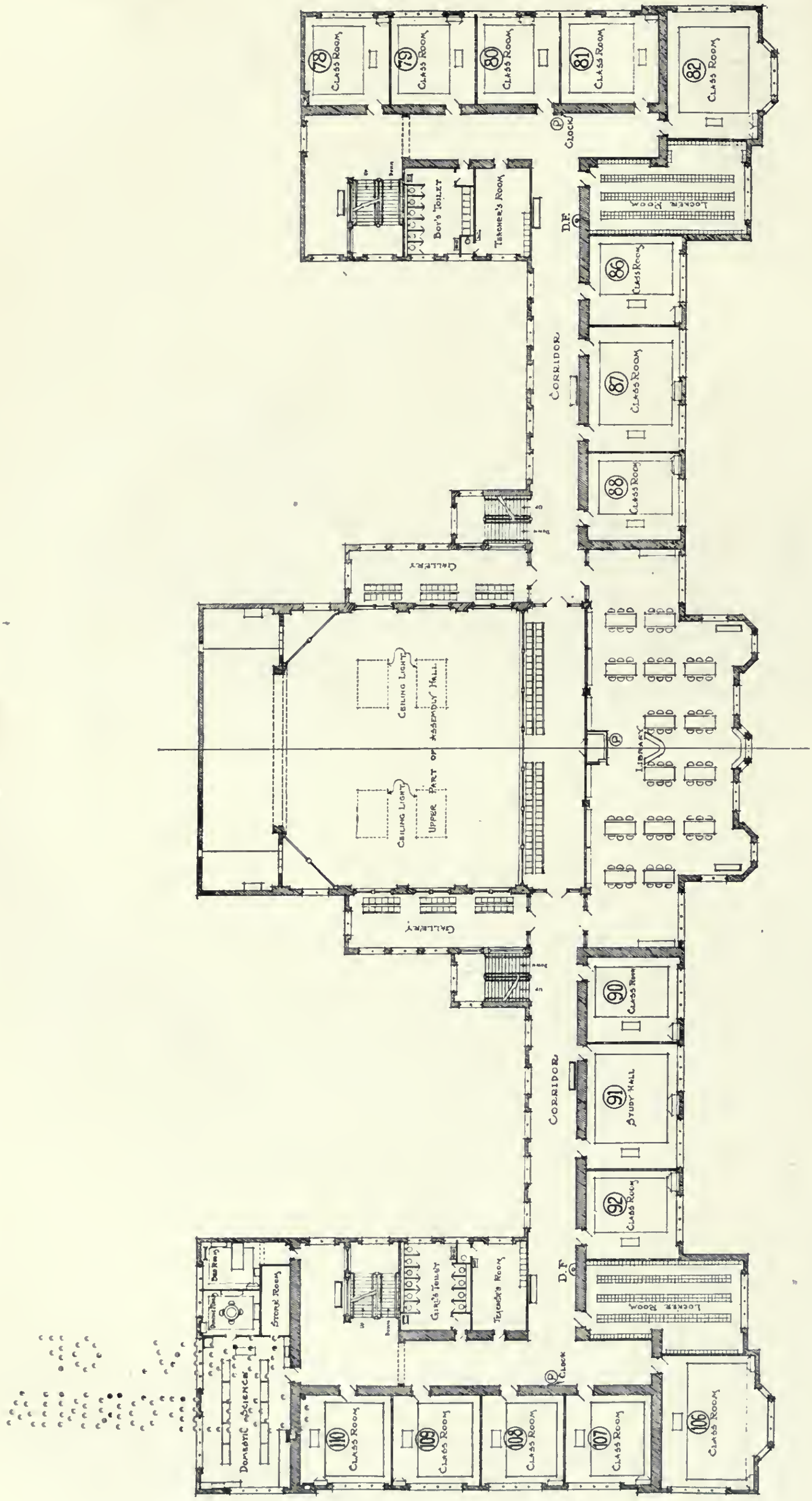


PAUL LAWRENCE DUNBAR HIGH SCHOOL, WASHINGTON, D. C.
Snowden Ashford, Municipal Architect, Washington, D. C.


Slag
Roof
Skylight
Skylight
Skylight
Skylight
Foul Air Chamber
Foul Air Chamber
Foul Air Chamber
Foul Air Chamber
Walk
Walk
Dark Room
Drawing Room
Exhibition Room
Corridor
Drawing Room
Museum
Drawing Room
Stone Panel
Stone Panel

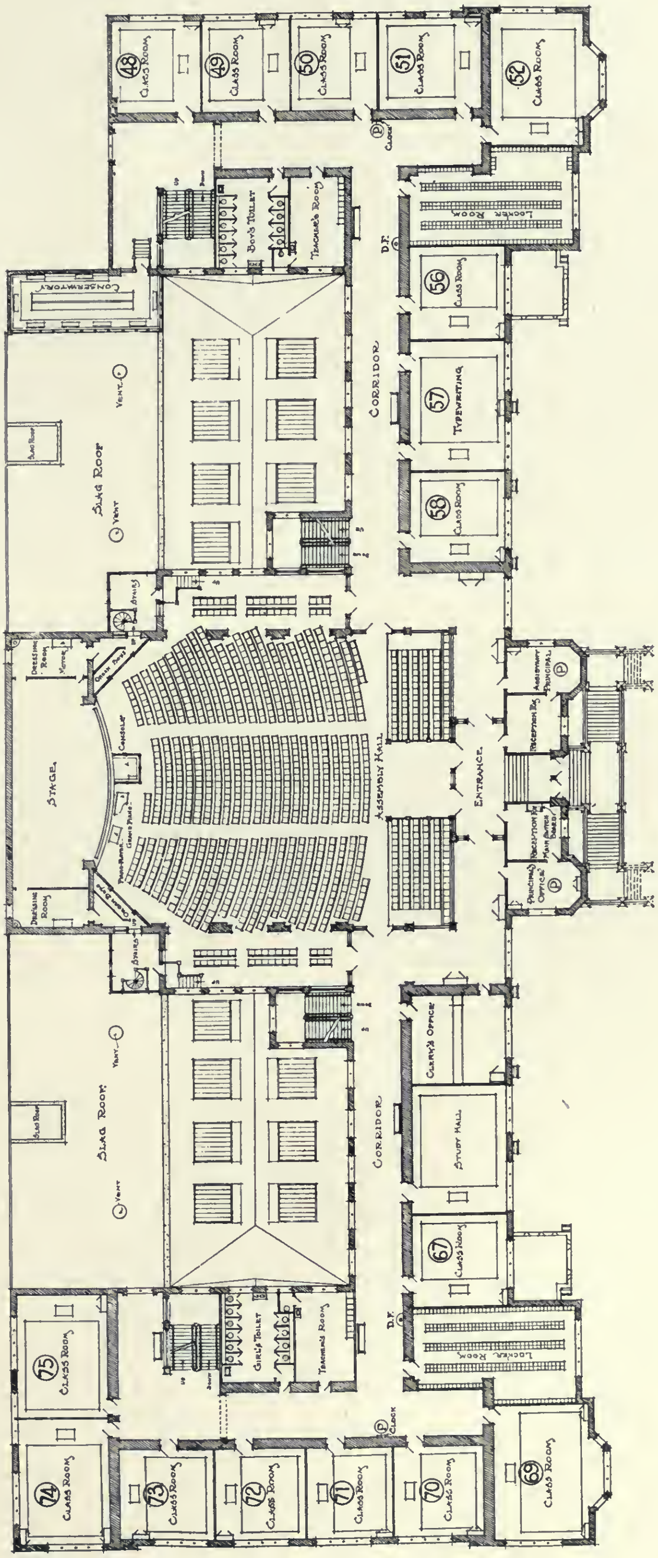
Third Floor & Attic Plan
Scale 1/16 Inch = 1'-0"

THIRD FLOOR PLAN, DUNBAR HIGH SCHOOL, WASHINGTON, D. C.


78 Class Room
79 Class Room
80 Class Room
81 Class Room
82 Class Room
P Clock
Boy's Toilet
Teacher's Room
D.F.
Locker Room
86 Class Room
Corridor
87 Class Room
88 Class Room
Gallery
Ceiling Light
Upper Part of Assembly Hall
Ceiling Light
P
Library
Gallery
90 Class Room
91 Study Hall
Corridor
92 Class Room
D.F.
Locker Room
Girl's Toilet
Teacher's Room
Store Room
Domestic Science
P Clock
110 Class Room
109 Class Room
108 Class Room
107 Class Room
106 Class Room

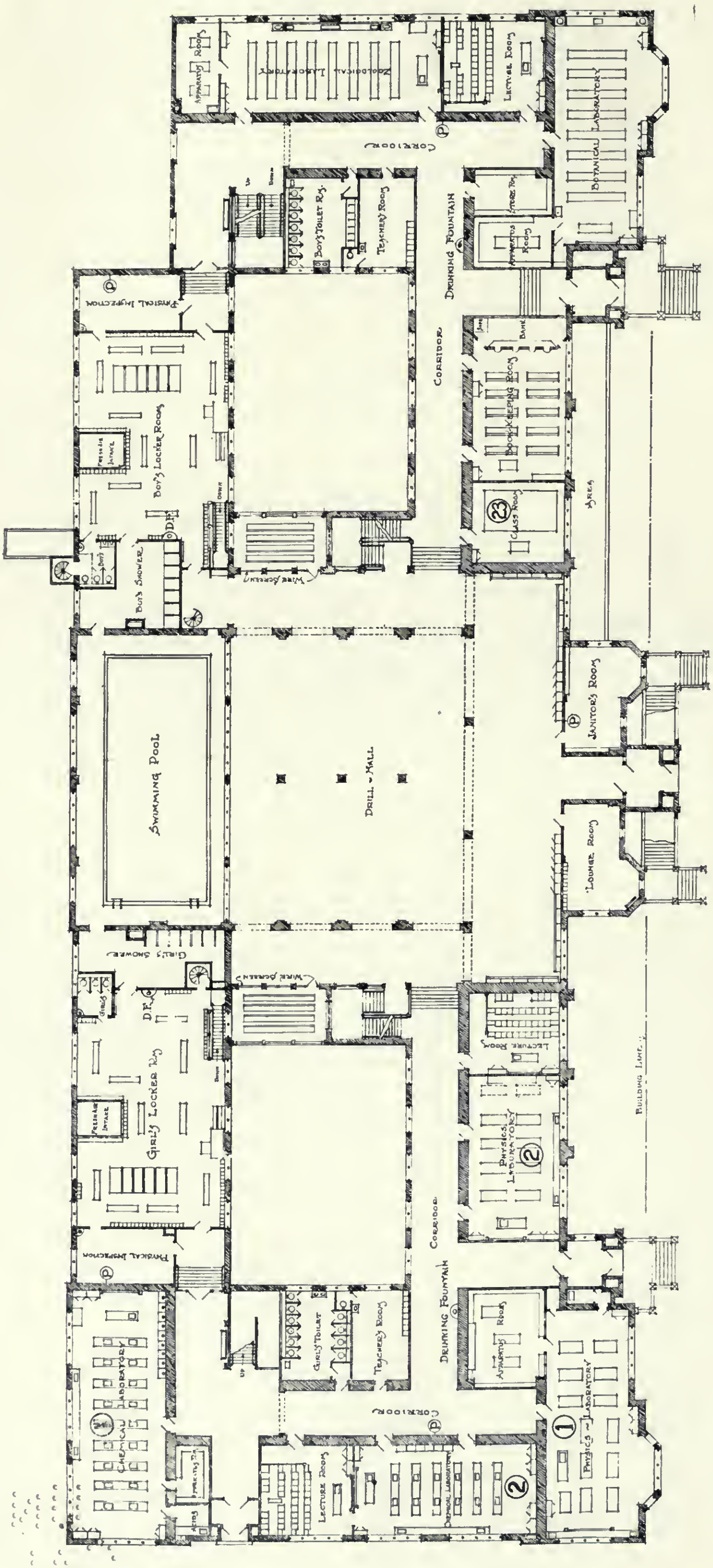
Second Floor Plan
Scale 1/16 inch = 1'-0"

SECOND FLOOR PLAN, DUNBAR HIGH SCHOOL, WASHINGTON, D. C.


Class Room 48
Class Room 49
Class Room 50
Class Room 51
Class Room 52
Clock
Boy's Toilet
Teacher's Room
Locker Room
D.F.
Conservatory
Class Room 56
Corridor
Typewriting 57
Class Room 58
Slag Roof
Vent
Stairs
Dressing Room
Stage
Console
Assembly Hall
Entrance
Assistant Principal
Reception Rm
Reception Rm Main Button Board
Principal's Office
Dressing Room
Stairs
Slag Roof
Vent
Corridor
Clerk's Office
Study Hall
Class Room 67
Locker Room
D.F.
Girl's Toilet
Teacher's Room
Clock
Class Room 75
Class Room 74
Class Room 73
Class Room 72
Class Room 71
Class Room 70
Class Room 69
First-Floor-Plan
Scale 1/16 inch=1'-0"

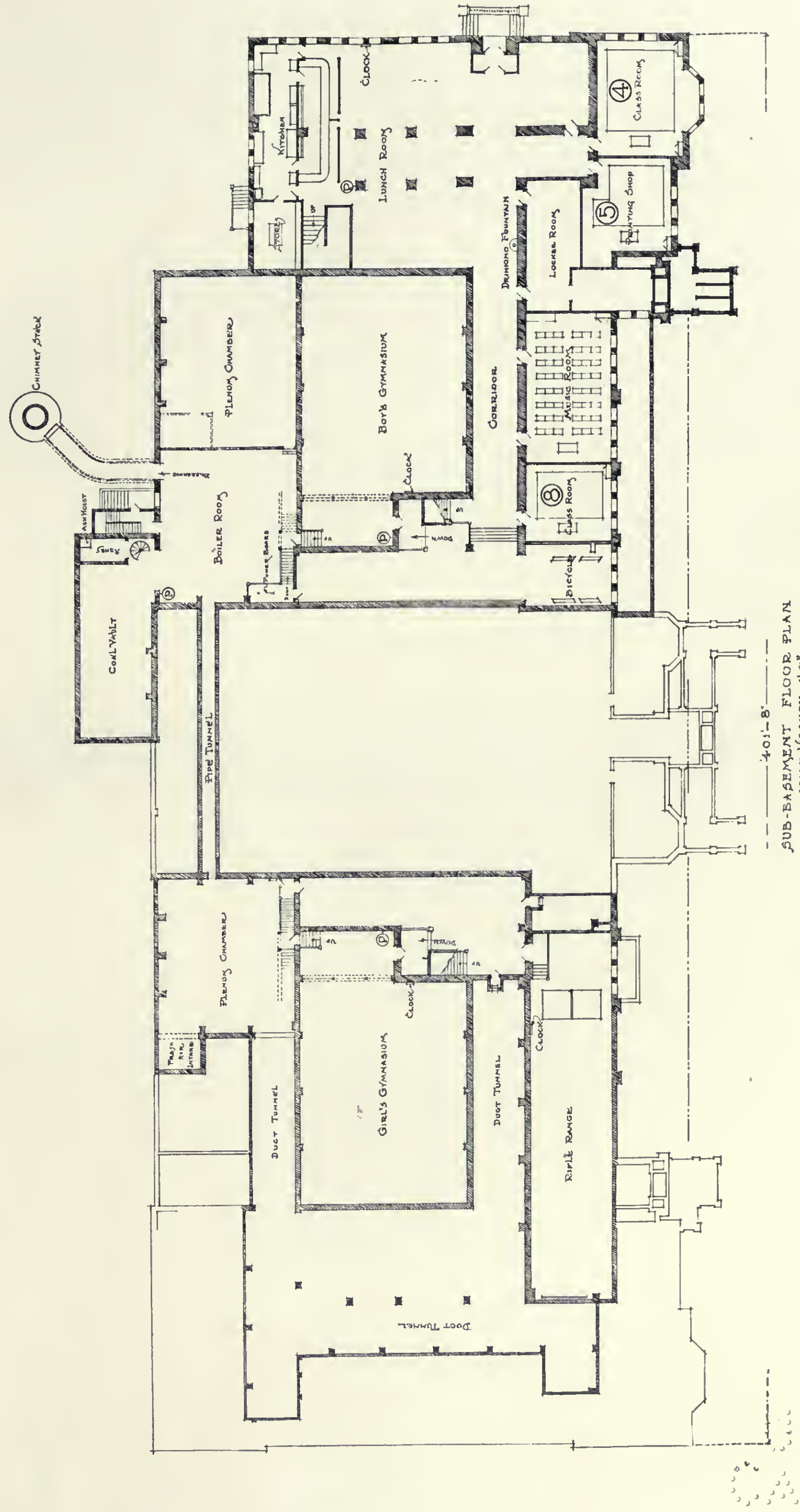
FIRST FLOOR PLAN, DUNBAR HIGH SCHOOL, WASHINGTON, D. C.

UNIV. OF CALIFORNIA

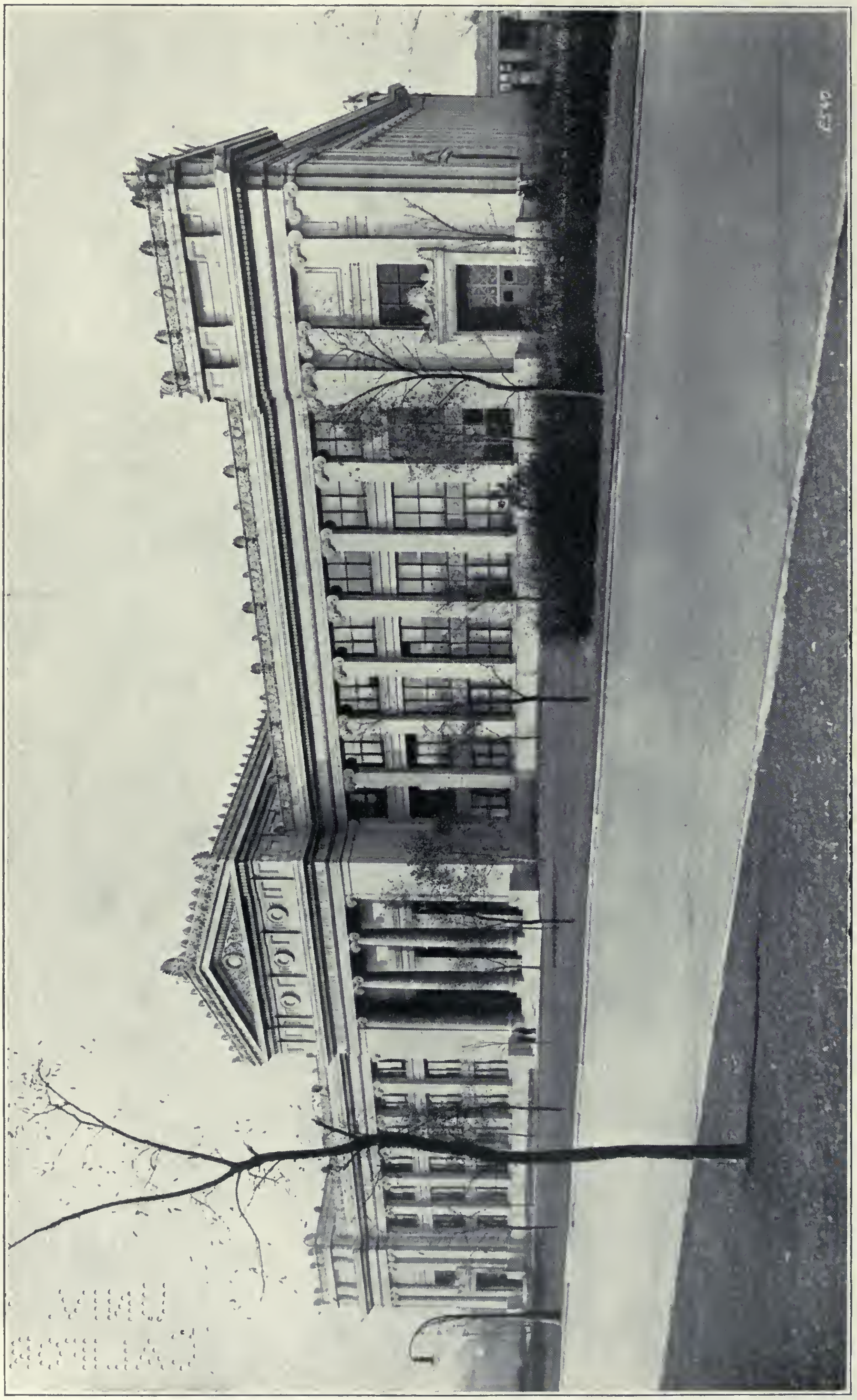

Apparatus Room
Zoological Laboratory
Lecture Room
Botanical Laboratory
Corridor
Boy's Toilet Rm.
Teacher's Room
Drinking Fountain
Apparatus Room
Store Rm.
Physical Inspection
Boy's Locker Room
Fresh Air Intake
Boy's Shower
D.F.
Bank
Bookkeeping Room
23
Class Room
Area
Wire Screen
Swimming Pool
Drill - Hall
Janitor's Room
Lounge Room
Girl's Shower
Wire Screen
Lecture Room
Physics Laboratory
2
Building Line
Girl's Locker Rm.
Fresh Air Intake
D.F.
Corridor
Physical Inspection
Drinking Fountain
Girl's Toilet
Teacher's Room
Apparatus Room
Chemical Laboratory
Corridor
1
Physics Laboratory
Lecture Room
Chemical Laboratory
2

Basement ~ Floor Plan
Scale 1/16 inch = 1'-0"

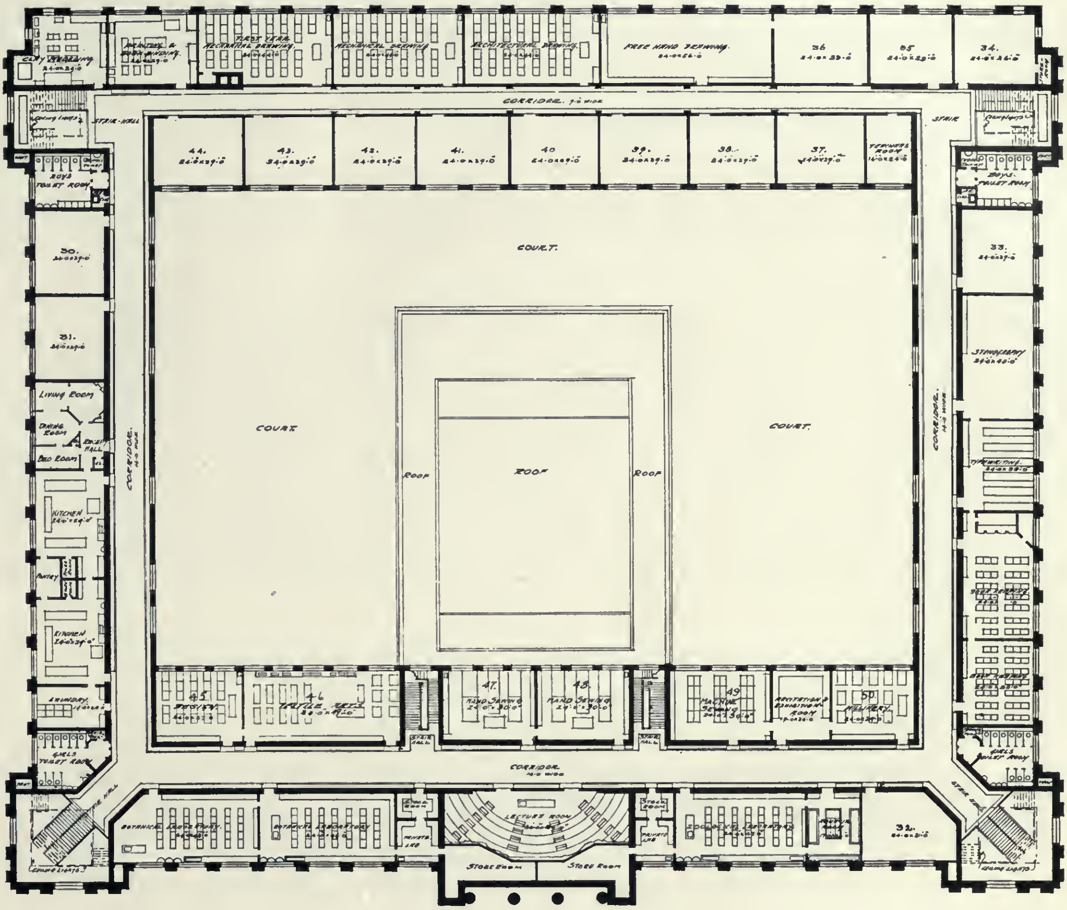
BASEMENT FLOOR PLAN, DUNBAR HIGH SCHOOL, WASHINGTON, D. C.


Chimney Stack
Kitchen
Clock
Lunch Room
Store
Up
Class Room
④
Printing Shop
⑤
Locker Room
Drinking Fountain
Plenum Chamber
Boy's Gymnasium
Corridor
Music Room
Class Room
⑧
Clock
Breeching
Ash Hoist
Boiler Room
Power Board
Down
Up
Bicycle
Coal Vault
Pipe Tunnel
401'-8"
Sub-Basement Floor Plan
Scale 1/16 inch = 1'-0"
Plenum Chamber
Fresh Air Intake
Duct Tunnel
Girl's Gymnasium
Clock
Duct Tunnel
Clock
Rifle Range
Duct Tunnel

SUB-BASEMENT PLAN, DUNBAR HIGH SCHOOL, WASHINGTON, D. C.
Snowden Ashford, Municipal Architect, Washington, D. C.

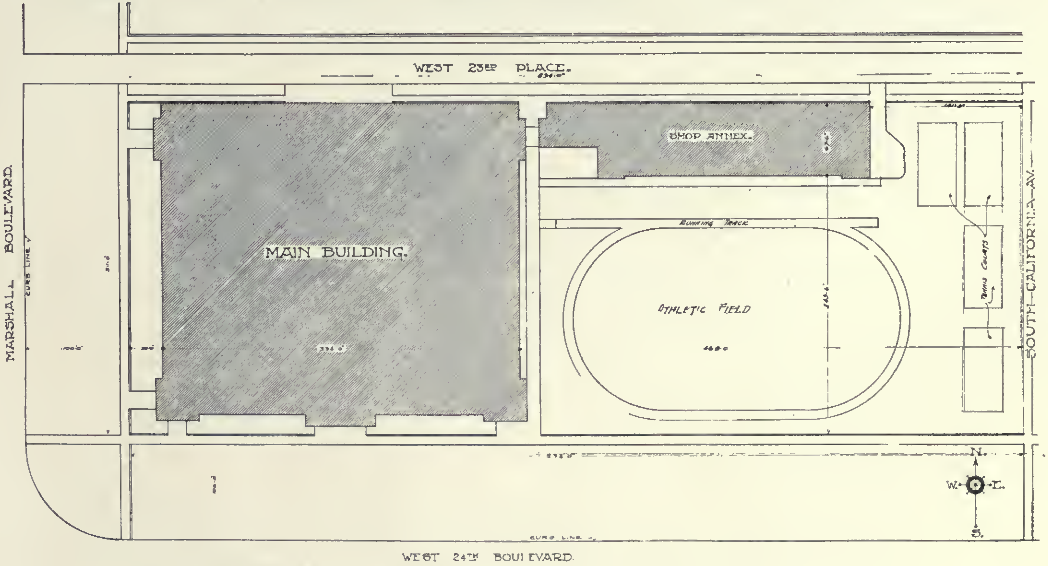


CARTER HARRISON TECHNICAL HIGH SCHOOL, CHICAGO, ILL.
Arthur F. Hussander, Architect of the Board of Education, Chicago.

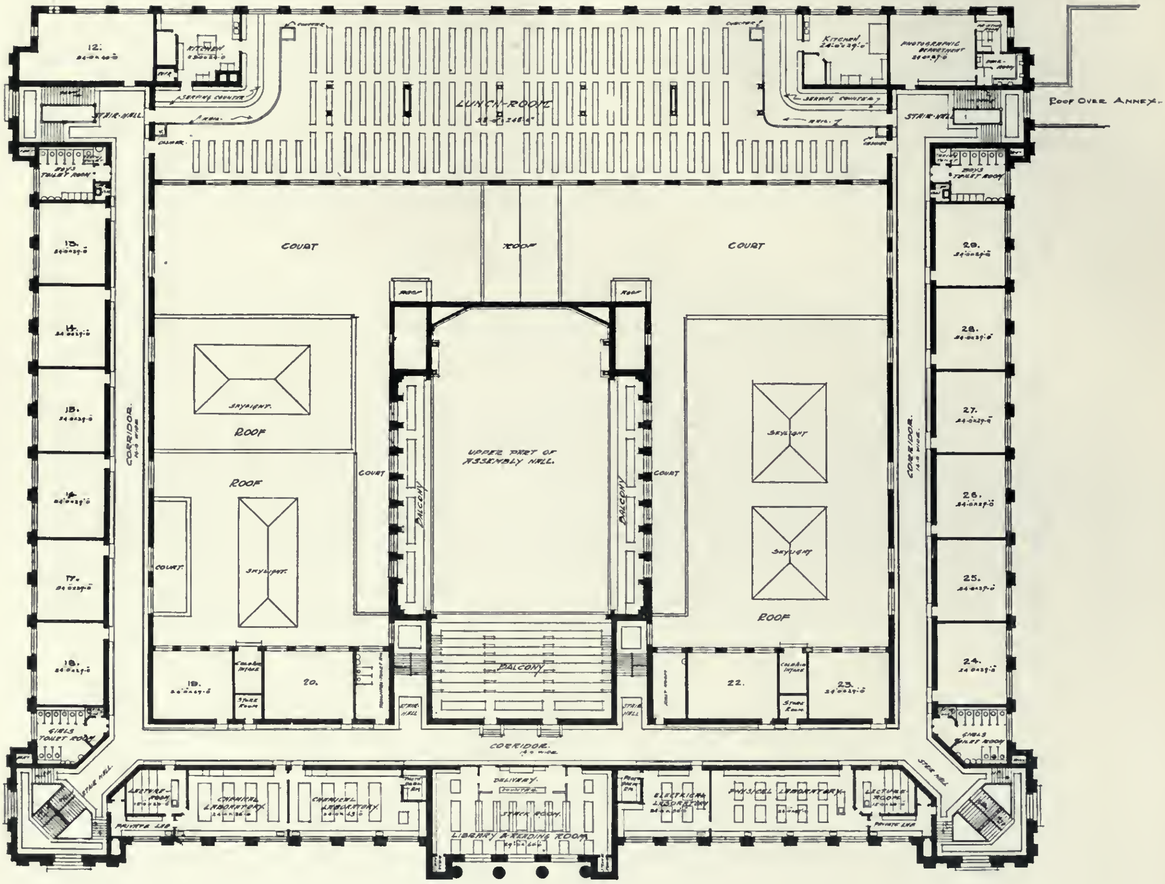

Clay Modeling
First Year Mechanical Drawing
Mechanical Drawing
Architectural Drawing
Free Hand Drawing
36
35
34
Corridor 7'-0" wide
Stair Hall
Stair
44.
43.
42.
41.
40
39.
38.
37.
Teachers Room
Boys Toilet Room
30.
31.
Living Room
Dining Room
Bed Room
Kitchen
Pantry
Laundry
Girls Toilet Room
Court.
Roof
Corridor
33.
Stenography
Typewriting
45
46 Textile Arts
47. Hand Sewing
48. Hand Sewing
49 Machine Sewing
Recitation & Examination Room
50 Millinery
Stair Hall
Botanical Laboratory
Lecture Room
Store Room
Zoological Laboratory
32.

TMIRD FLOOR PLAN.

THIRD FLOOR PLAN, CARTER H. HARRISON TECHNICAL HIGH SCHOOL, CHICAGO, ILL.

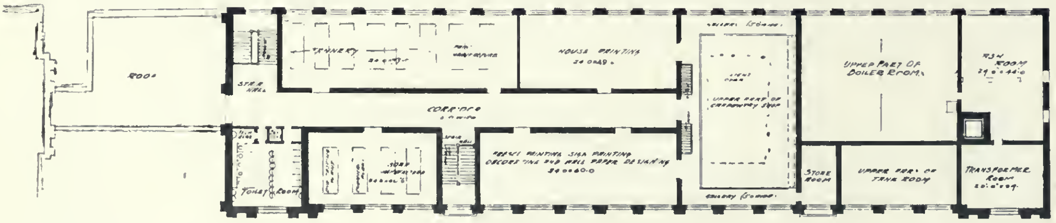

WEST 23RD PLACE.
SHOP ANNEX.
MAIN BUILDING.
Running Track
Athletic Field
Tennis Courts
MARSHALL BOULEVARD.
SOUTH CALIFORNIA AV.
Curb Line
N.
S.
W.
E.
WEST 24TH BOULEVARD.

PLAT PLAN, CARTER H. HARRISON TECHNICAL HIGH SCHOOL, CHICAGO, ILL.


12.
KITCHEN
SERVING COUNTER
RAIL
LUNCH-ROOM
KITCHEN 24'-0"x29'-0"
PHOTOGRAPHIC DEPARTMENT
ROOF OVER ANNEX.
STAIR-HALL
BOYS TOILET ROOM
COURT
ROOF
COURT
13.
14.
15.
16.
17.
18.
29.
28.
27.
26.
25.
24.
CORRIDOR.
SKYLIGHT
ROOF
UPPER PART OF ASSEMBLY HALL.
BALCONY
BALCONY
COURT
COURT
SKYLIGHT
SKYLIGHT
COURT.
SKYLIGHT
ROOF
19.
20.
STORE ROOM
22.
23.
STORE ROOM
BALCONY
STAIR HALL
STAIR HALL
GIRLS TOILET ROOM
GIRLS TOILET ROOM
CORRIDOR.
STAIR HALL
STAIR HALL
LECTURE-ROOM
CHEMICAL LABORATORY
CHEMICAL LABORATORY
PRIVATE LAB
DELIVERY.
COUNTER
STACK ROOM.
LIBRARY & READING ROOM
ELECTRICAL LABORATORY
PHYSICAL LABORATORY.
LECTURE-ROOM
PRIVATE LAB

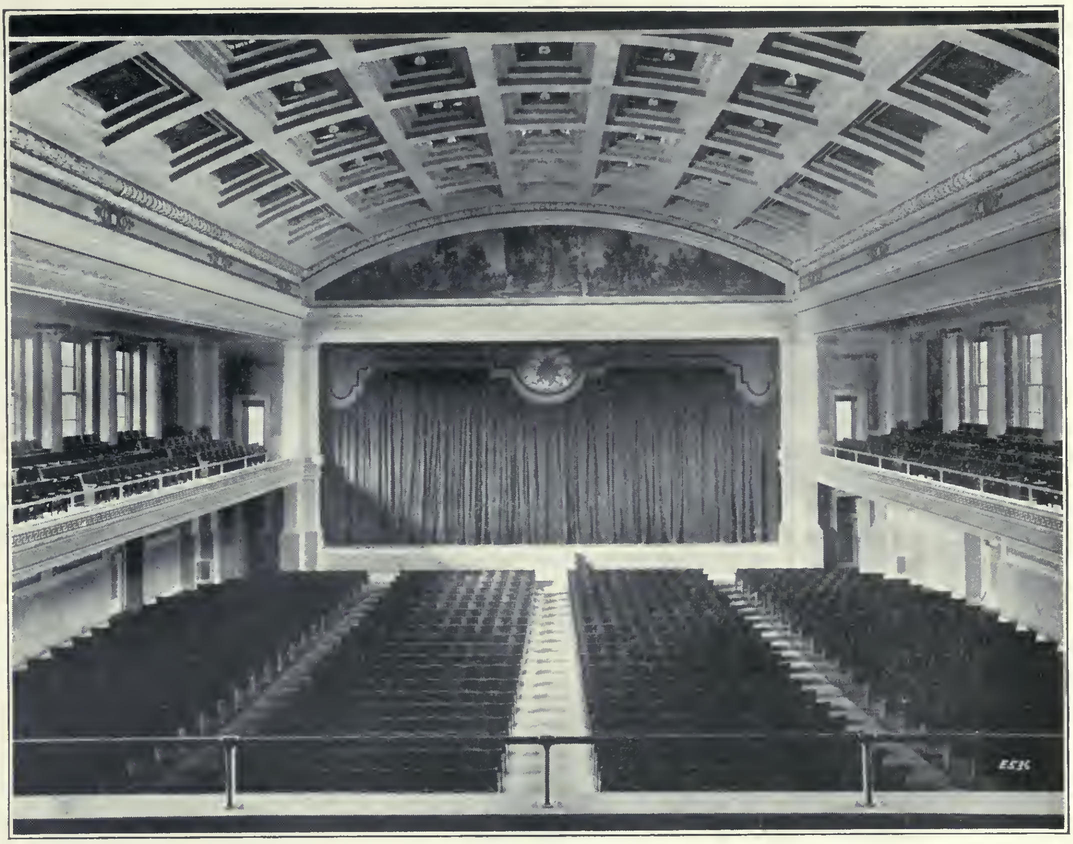
SECOND FLOOR PLAN.

MAIN BUILDING, CARTER H. HARRISON TECHNICAL HIGH SCHOOL, CHICAGO, ILL.

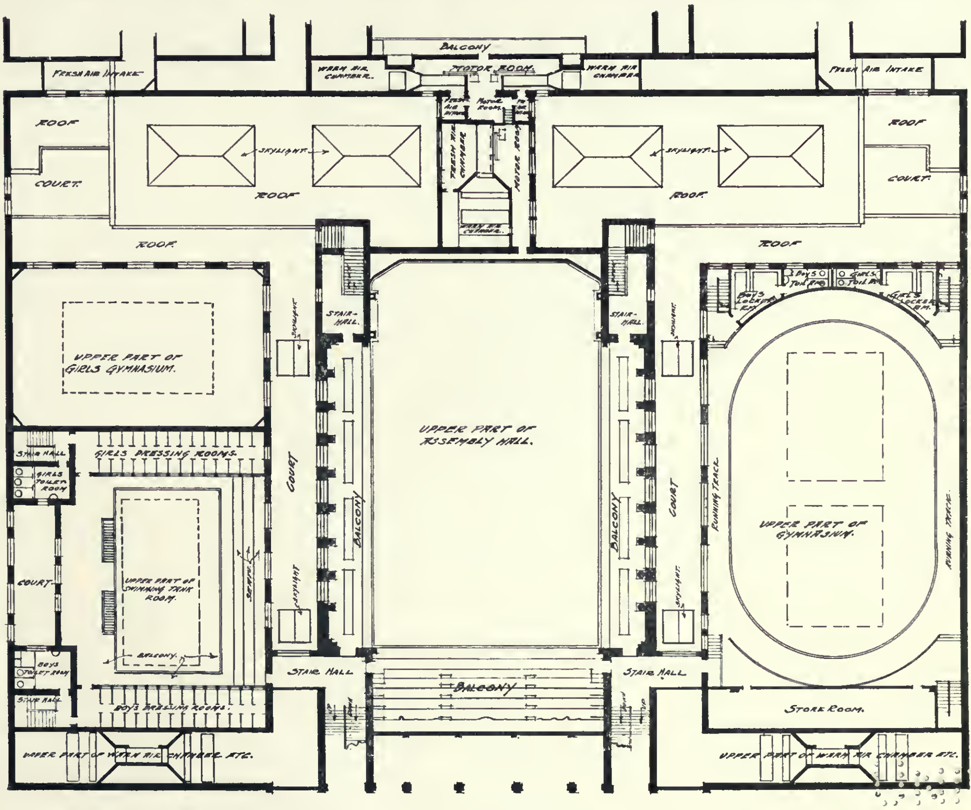

ROOF
TINNERY
HOUSE PAINTING
STAIR HALL
CORRIDOR
UPPER PART OF CARPENTRY SHOP
UPPER PART OF BOILER ROOM.
FAN ROOM
TOILET ROOM
FRESCO PAINTING SIGN PAINTING DECORATING AND WALL PAPER DESIGNING
STORE ROOM
UPPER PART OF TANK ROOM
TRANSFORMER ROOM

SECOND FLOOR PLAN.

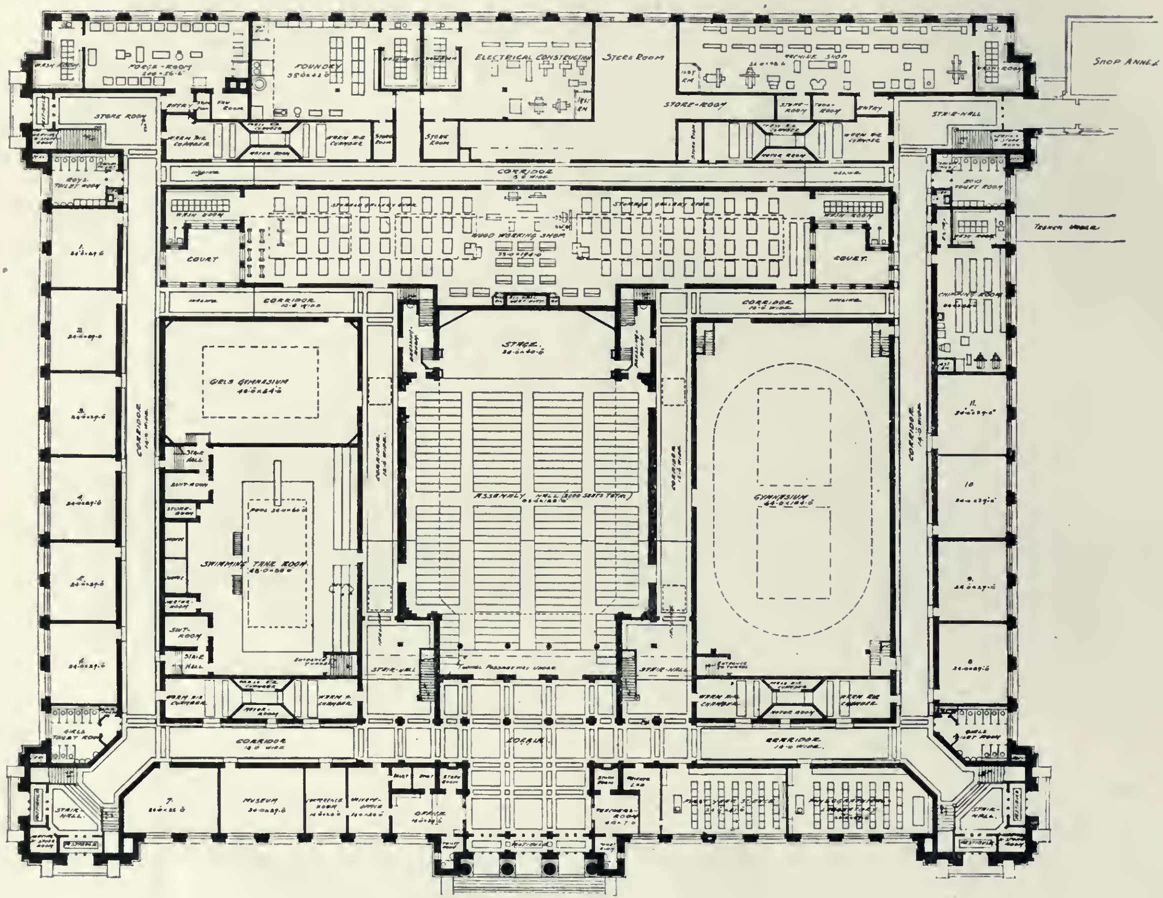
SHOP ANNEX, CARTER H. HARRISON TECHNICAL HIGH SCHOOL, CHICAGO, ILL.



AUDITORIUM, CARTER H. HARRISON TECHNICAL HIGH SCHOOL, CHICAGO, ILL.

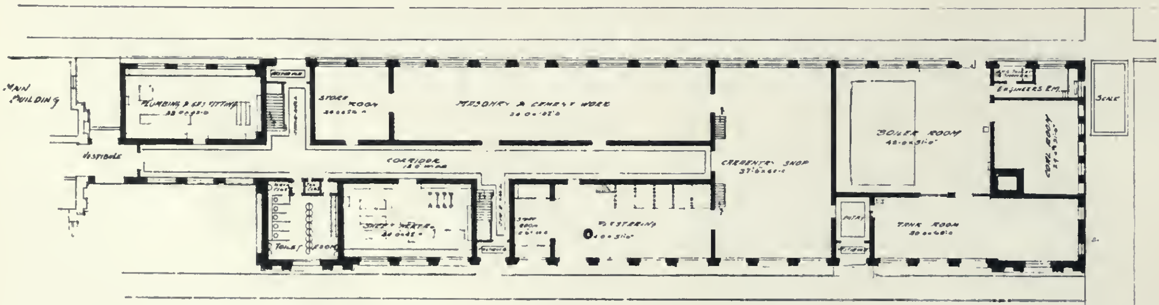

BALCONY
MOTOR ROOM.
WARM AIR CHAMBER.
WARM AIR CHAMBER
FRESH AIR INTAKE
FRESH AIR INTAKE
FRESH AIR INTAKE
MOTOR ROOM
FRESH AIR CHAMBER
MOTOR ROOM
WARM AIR CHAMBER
ROOF
ROOF
COURT.
COURT.
SKYLIGHT.
SKYLIGHT.
ROOF
ROOF
ROOF
ROOF
STAIR-HALL.
STAIR-HALL.
SKYLIGHT
SKYLIGHT
BOYS TOIL. RM.
GIRLS TOIL. RM.
BOYS LOCKER RM.
GIRLS LOCKER RM.
UPPER PART OF GIRLS GYMNASIUM.
UPPER PART OF ASSEMBLY HALL.
STAIR HALL
GIRLS DRESSING ROOMS.
GIRLS TOILET ROOM
COURT
BALCONY
BALCONY
COURT
RUNNING TRACK
UPPER PART OF GYMNASIUM.
RUNNING TRACK.
COURT.
UPPER PART OF SWIMMING TANK ROOM.
SEATS
SKYLIGHT
SKYLIGHT.
BALCONY.
BOYS TOILET ROOM
STAIR HALL
STAIR HALL
STAIR HALL
BALCONY
STORE ROOM.
BOYS DRESSING ROOMS.
UPPER PART OF WARM AIR CHAMBER ETC.
UPPER PART OF WARM AIR CHAMBER ETC.

MEZZANINE FLOOR PLAN, CARTER H. HARRISON TECHNICAL HIGH SCHOOL, CHICAGO, ILL.


WASH ROOM
FORGE-ROOM
FOUNDRY
ELECTRICAL CONSTRUCTION
STORE ROOM
MACHINE SHOP
SHOP ANNEX
STORE ROOM
ENTRY
STORE-ROOM
TOOL ROOM
STAIR-HALL
WARM AIR CHAMBER
MOTOR ROOM
CORRIDOR
BOYS TOILET ROOM
WASH ROOM
WOOD WORKING SHOP
STORAGE GALLERY OVER
COURT
TRENCH UNDER
CHIPPING ROOM
CORRIDOR 10-0 WIDE
STAGE
GIRLS GYMNASIUM
CORRIDOR 14-0 WIDE
CORRIDOR 12-0 WIDE
STAIR HALL
STORE-ROOM
SWIMMING TANK ROOM
POOL
METER-ROOM
SUIT-ROOM
ASSEMBLY HALL (2000 SEATS TOTAL)
GYMNASIUM
1
2
3
4
5
6
7
8
9
10
11
ENTRANCE TO TUNNEL
TUNNEL PASSAGEWAY UNDER
STAIR-HALL
GIRLS TOILET ROOM
CORRIDOR 14-0 WIDE
LOGGIA
MUSEUM
OFFICE
TEACHERS-ROOM
STAIR-HALL
VESTIBULE

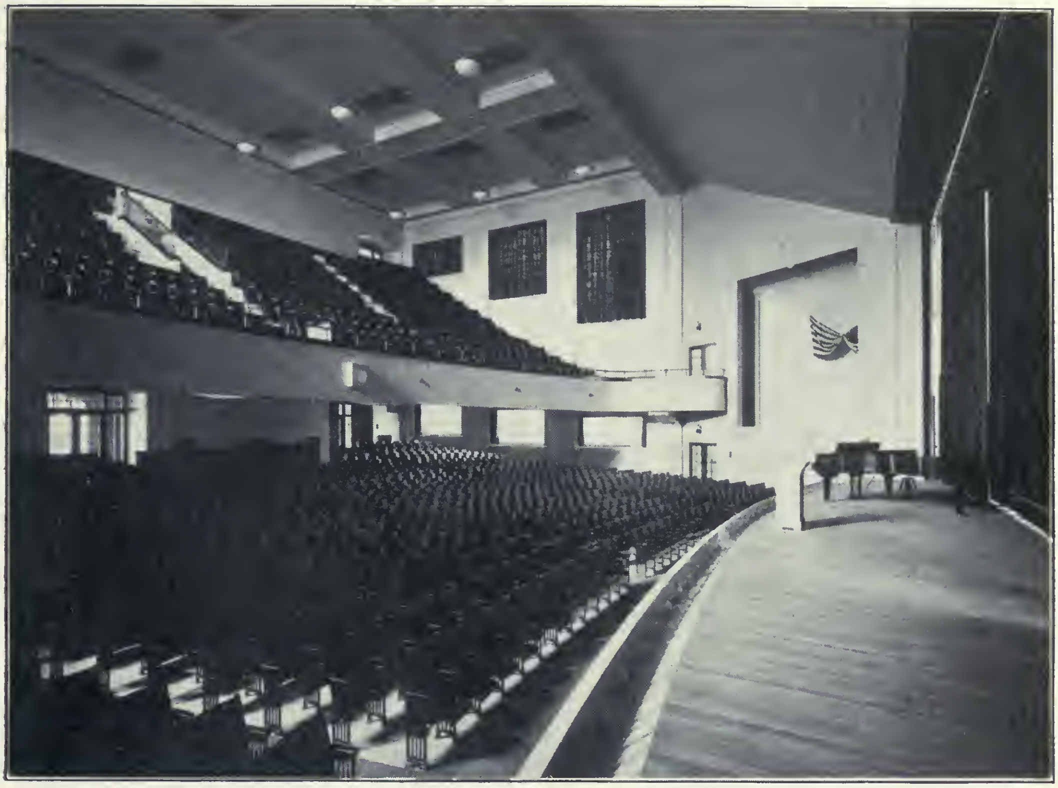
FIRST FLOOR PLAN.

FIRST FLOOR PLAN, CARTER H. HARRISON TECHNICAL HIGH SCHOOL, CHICAGO, ILL.

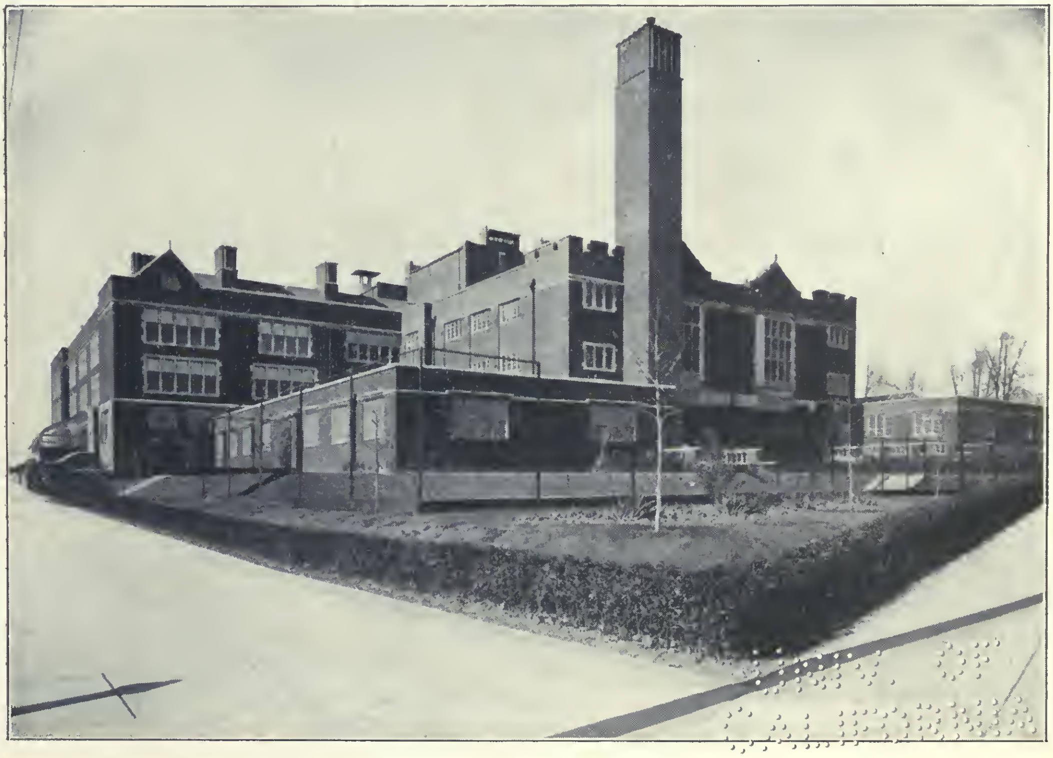

MAIN BUILDING
VESTIBULE
PLUMBING & GAS FITTING
STORE ROOM
MASONRY & CEMENT WORK
CORRIDOR 12-0 WIDE
CARPENTRY SHOP
BOILER ROOM
ENGINEERS RM.
COAL ROOM
SCALE
SHEET METAL
TOILET ROOM
PLASTERING
TANK ROOM

FIRST FLOOR PLAN.

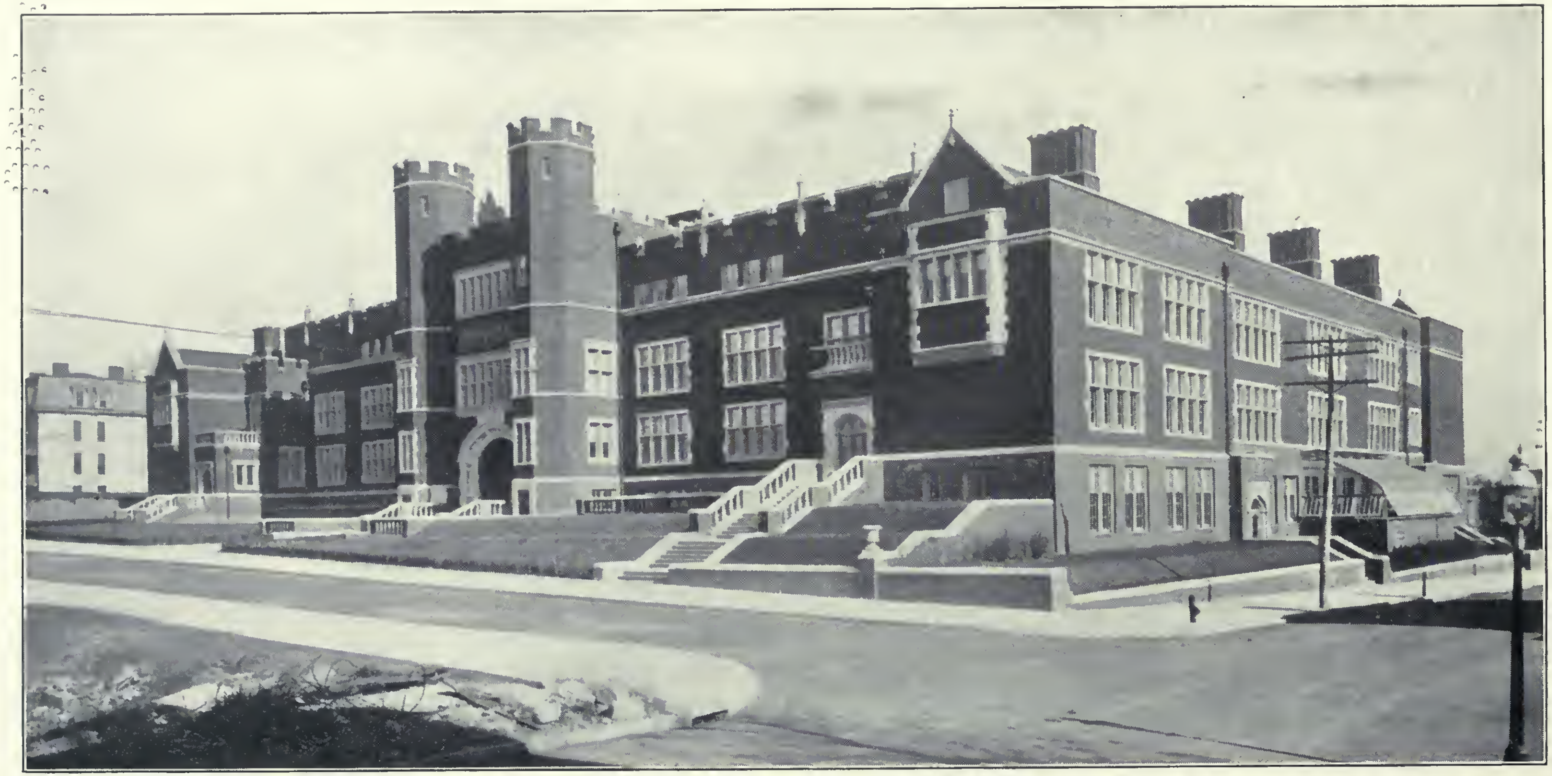
SHOP ANNEX, CARTER H. HARRISON TECHNICAL HIGH SCHOOL, CHICAGO, ILL.



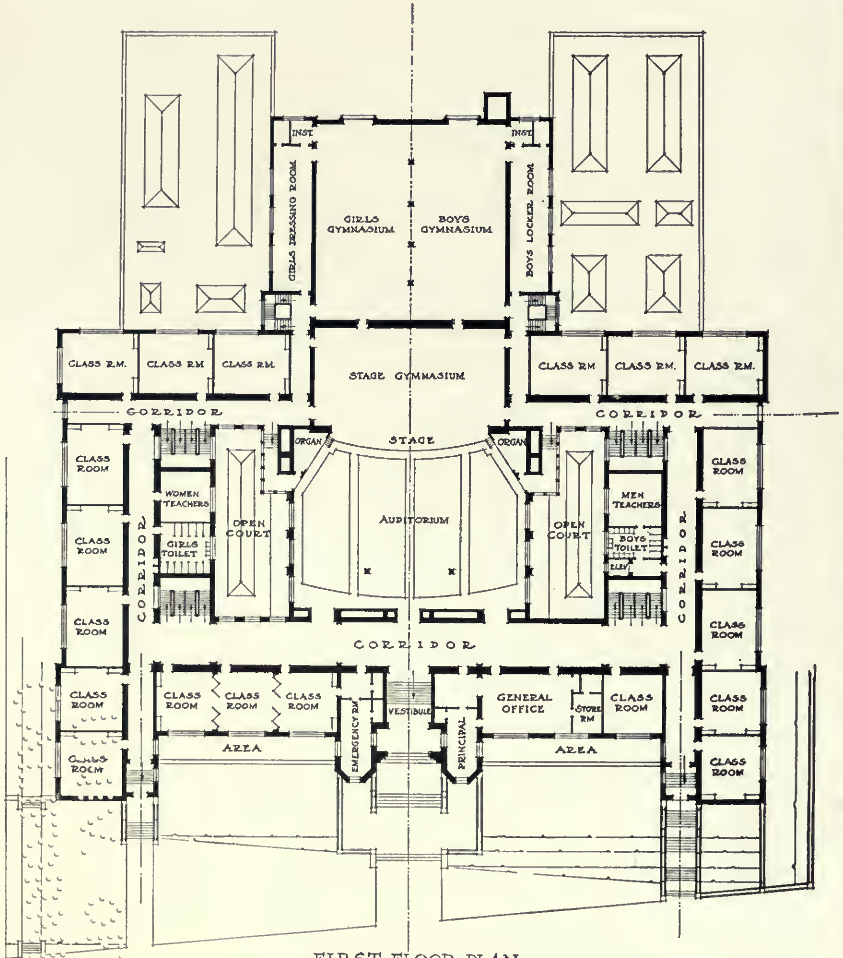
AUDITORIUM, GROVER CLEVELAND HIGH SCHOOL, ST. LOUIS, MO.
William B. Ittner, Architect, St. Louis.



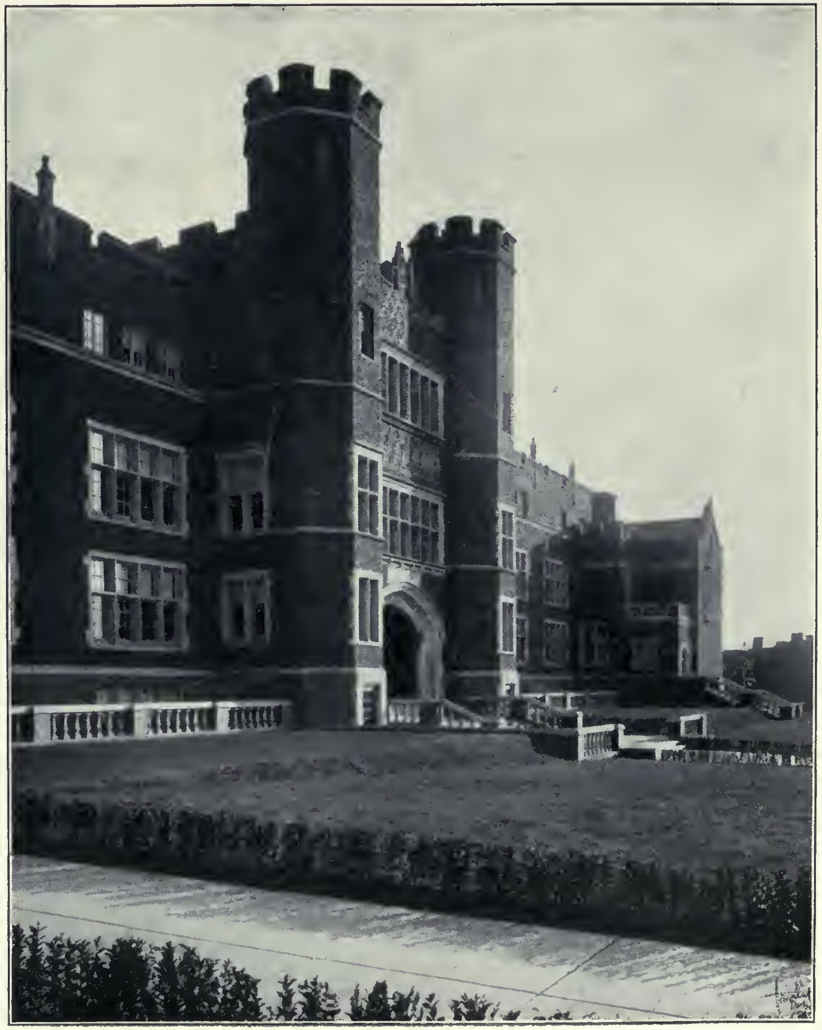
REAR VIEW, GROVER CLEVELAND HIGH SCHOOL, ST. LOUIS, MO.



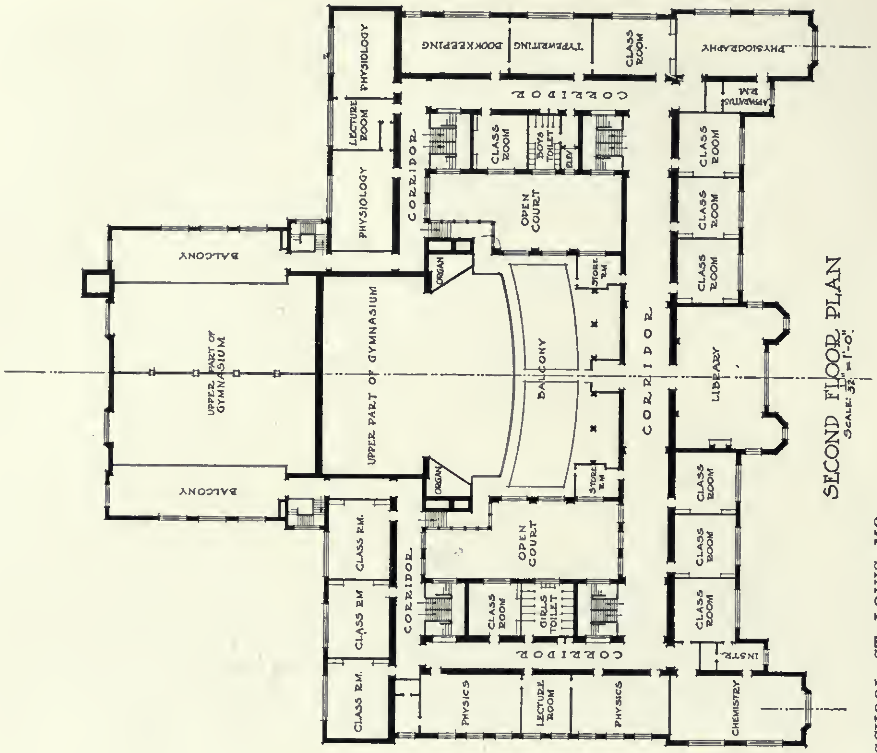
GROVER CLEVELAND HIGH SCHOOL, ST. LOUIS, MO.
William B. Ittner, Architect, St. Louis.


INST
GIRLS DRESSING ROOM
GIRLS GYMNASIUM
BOYS GYMNASIUM
BOYS LOCKER ROOM
CLASS RM.
STAGE GYMNASIUM
CORRIDOR
STAGE
ORGAN
CLASS ROOM
WOMEN TEACHERS
GIRLS TOILET
OPEN COURT
AUDITORIUM
MEN TEACHERS
BOYS TOILET
ELEV
AREA
EMERGENCY RM
VESTIBULE
PRINCIPAL
GENERAL OFFICE
STORE RM

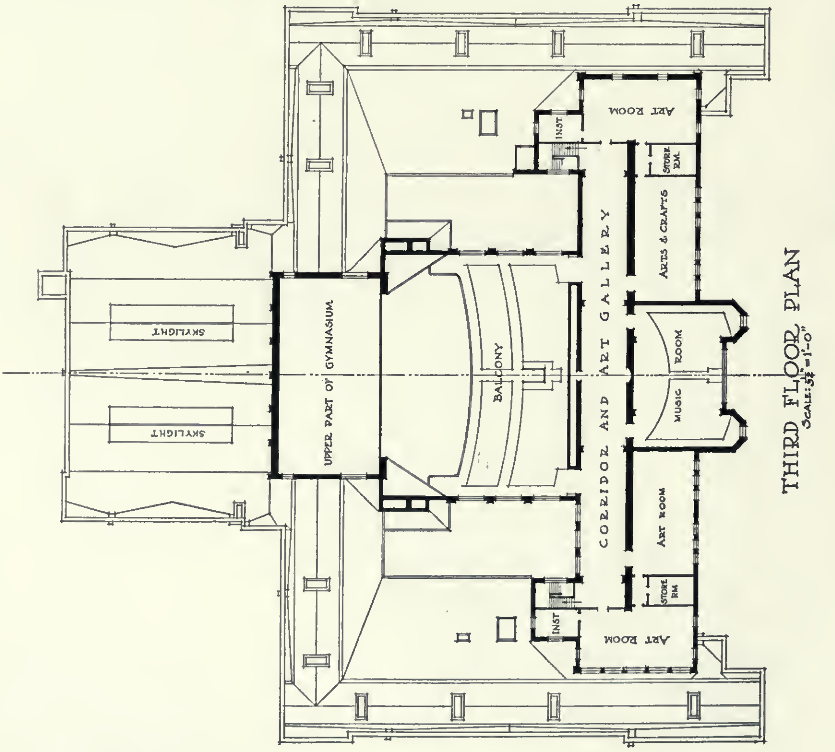
FIRST FLOOR PLAN
SCALE: $\frac{1}{32}$"=1'-0"



DETAIL OF THE WEST FRONT, GROVER CLEVELAND HIGH SCHOOL, ST. LOUIS, MO.

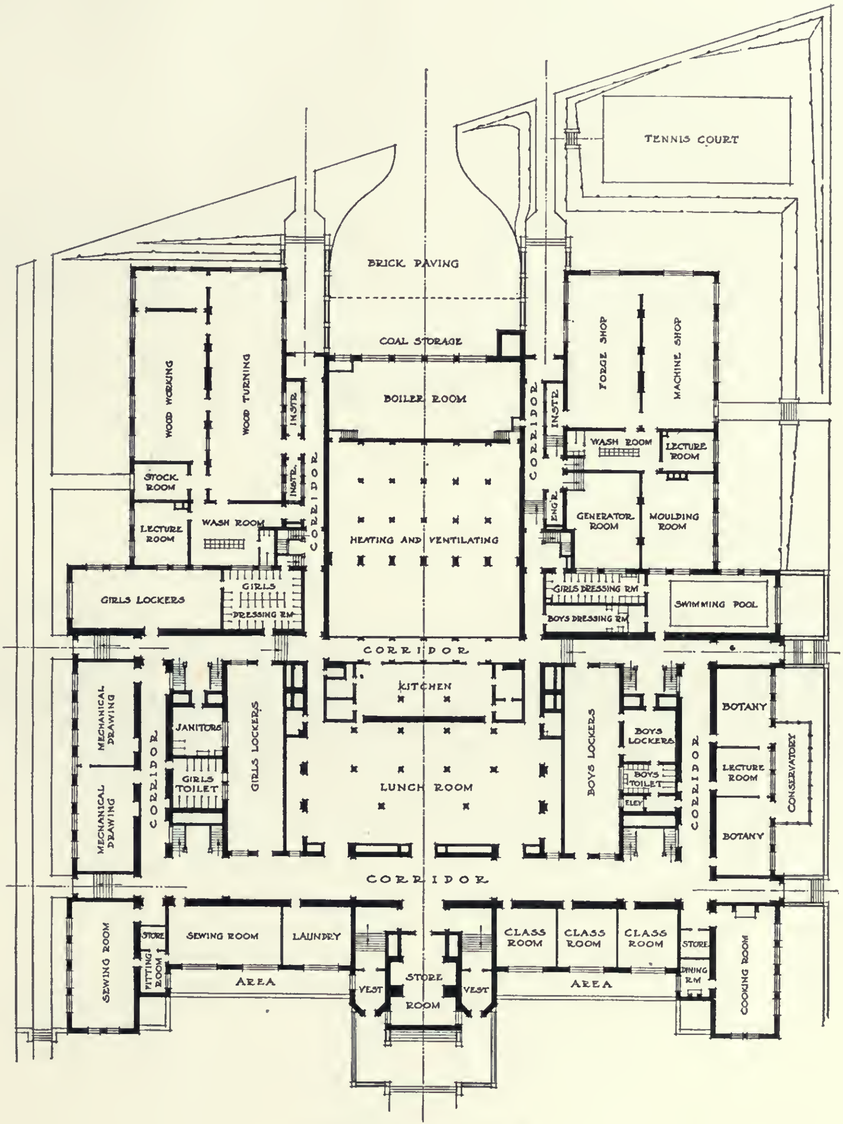

PHYSIOGRAPHY
APPARATUS RM.
CLASS ROOM
TYPEWRITING
BOOKKEEPING
PHYSIOLOGY
LECTURE ROOM
PHYSIOLOGY
CORRIDOR
CLASS ROOM
BOYS TOILET
ELEV.
OPEN COURT
BALCONY
UPPER PART OF GYMNASIUM
UPPER PART OF GYMNASIUM
BALCONY
ORGAN
BALCONY
STORE RM.
CORRIDOR
LIBRARY
CLASS ROOM
CLASS ROOM
CLASS ROOM
ORGAN
STORE RM.
OPEN COURT
CLASS RM.
CLASS RM.
CLASS RM.
CORRIDOR
CLASS ROOM
GIRLS TOILET
CLASS ROOM
CLASS ROOM
CLASS ROOM
INSTR.
PHYSICS
LECTURE ROOM
PHYSICS
CHEMISTRY

SECOND FLOOR PLAN
SCALE: 1/32"=1'-0"


ART ROOM
INST.
STORE RM.
ARTS & CRAFTS
SKYLIGHT
SKYLIGHT
UPPER PART OF GYMNASIUM
BALCONY
CORRIDOR AND ART GALLERY
MUSIC ROOM
ART ROOM
STORE RM.
INST.
ART ROOM

THIRD FLOOR PLAN
SCALE: 1/32"=1'-0"

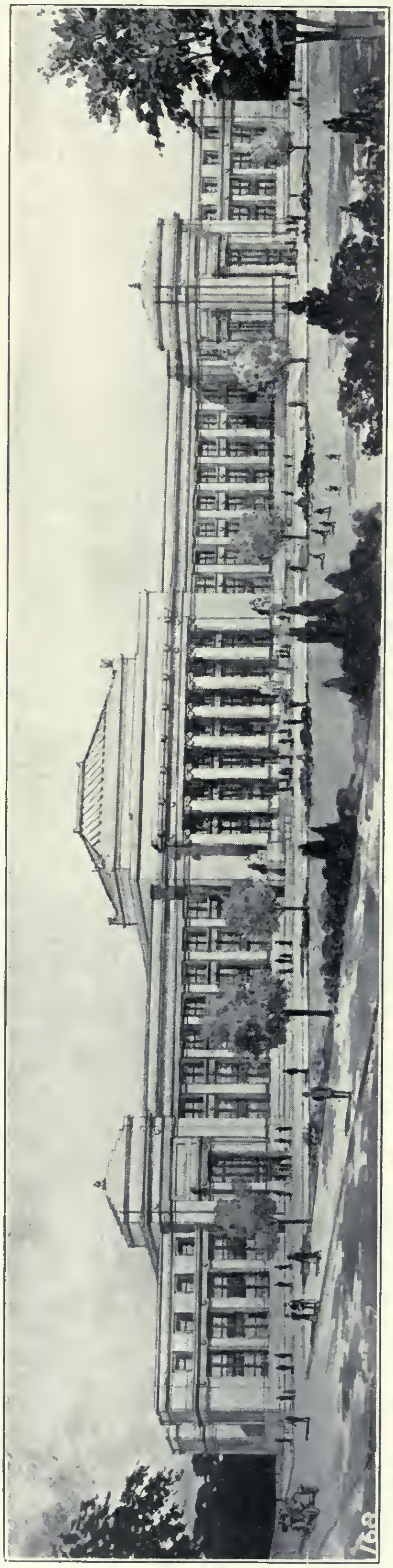
GROVER CLEVELAND HIGH SCHOOL, ST. LOUIS, MO.


TENNIS COURT
BRICK PAVING
COAL STORAGE
BOILER ROOM
HEATING AND VENTILATING
WOOD WORKING
WOOD TURNING
INSTR.
INSTR.
STOCK ROOM
LECTURE ROOM
WASH ROOM
CORRIDOR
GIRLS LOCKERS
GIRLS DRESSING RM
FORGE SHOP
MACHINE SHOP
CORRIDOR
INSTR.
WASH ROOM
LECTURE ROOM
ENGR.
GENERATOR ROOM
MOULDING ROOM
GIRLS DRESSING RM
BOYS DRESSING RM
SWIMMING POOL
CORRIDOR
KITCHEN
LUNCH ROOM
MECHANICAL DRAWING
MECHANICAL DRAWING
CORRIDOR
JANITORS
GIRLS TOILET
GIRLS LOCKERS
BOYS LOCKERS
BOYS LOCKERS
BOYS TOILET
ELEV
CORRIDOR
BOTANY
LECTURE ROOM
BOTANY
CONSERVATORY
CORRIDOR
SEWING ROOM
STORE
FITTING ROOM
SEWING ROOM
LAUNDRY
AREA
VEST
STORE ROOM
VEST
CLASS ROOM
CLASS ROOM
CLASS ROOM
AREA
STORE
DINING RM
COOKING ROOM

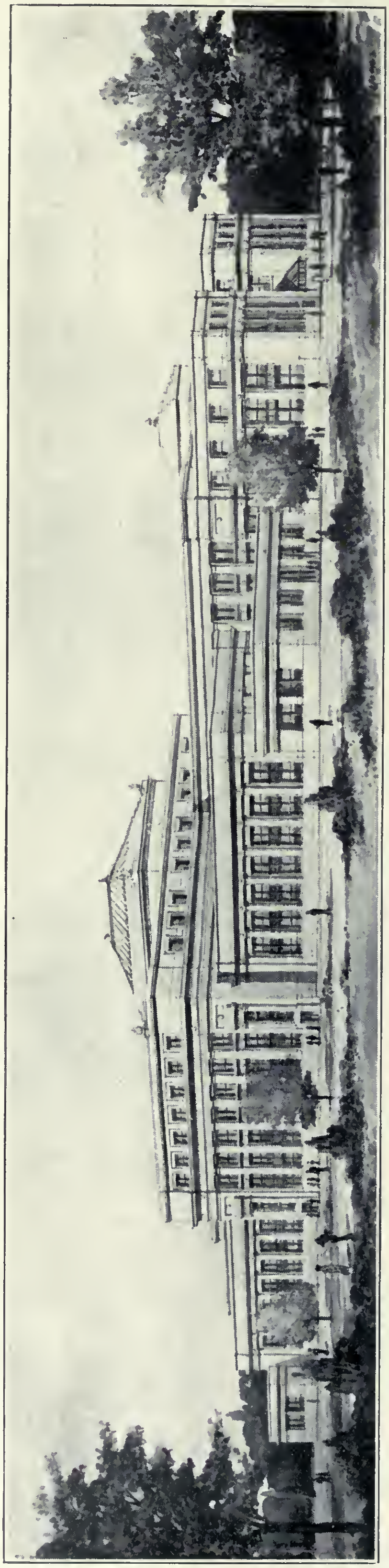
GROUND FLOOR PLAN
SCALE: $\frac{1}{32}$" = 1'-0"

GROVER CLEVELAND HIGH SCHOOL, ST. LOUIS, MO.

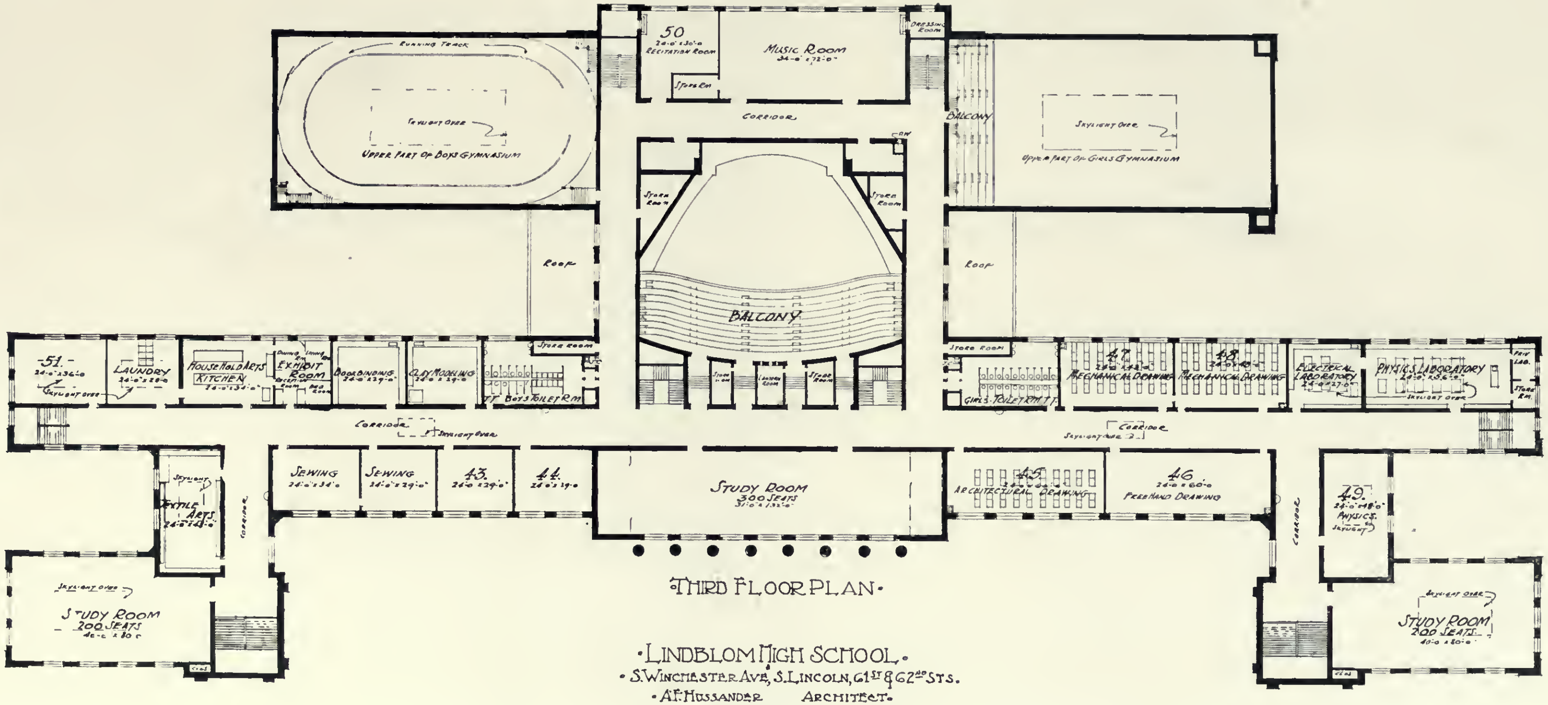
William B. Ittner, Architect, St. Louis.



FRONT VIEW, ROBERT LINDBLOM HIGH SCHOOL, CHICAGO, ILL.
A. F. Hussander, Architect, Chicago, Ill.

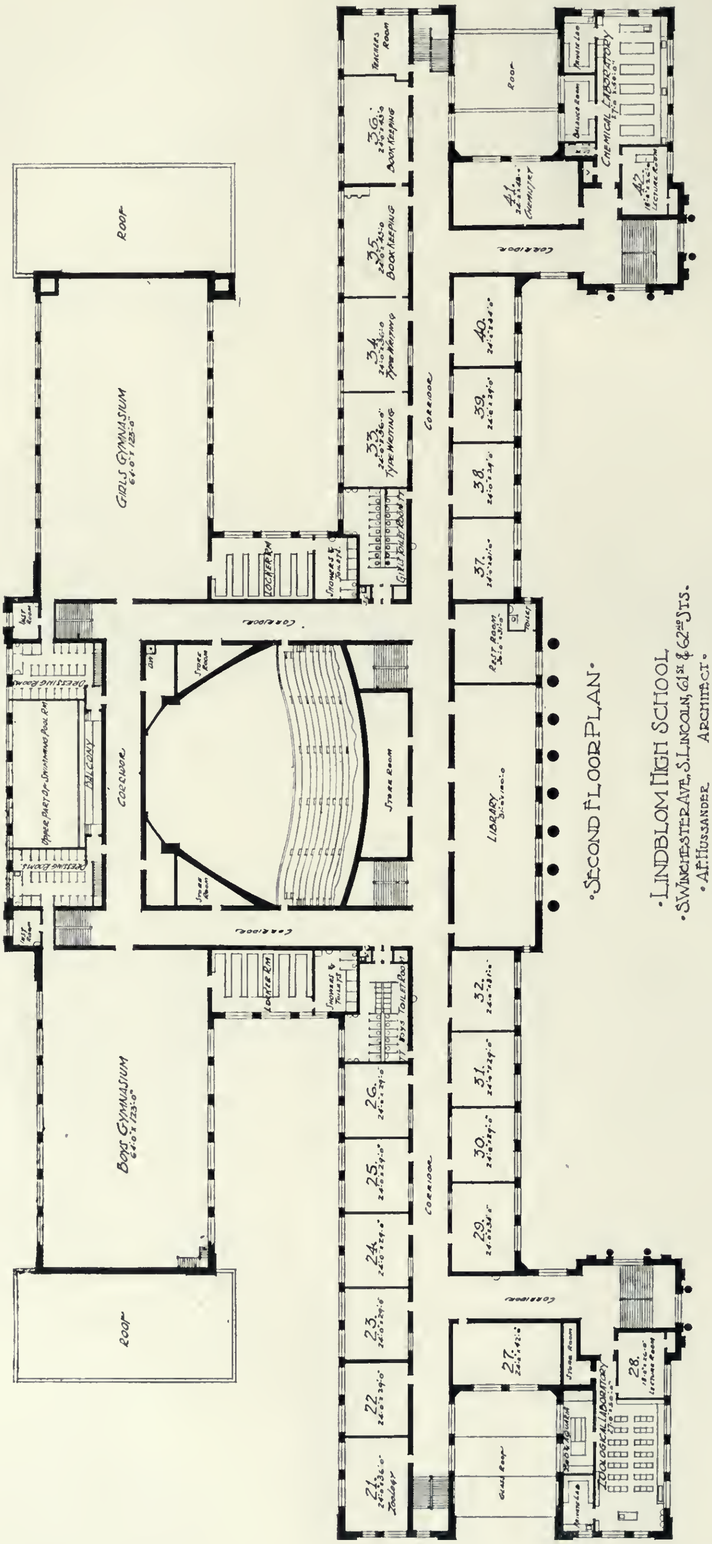


REAR VIEW, ROBERT LINDBLOM HIGH SCHOOL, CHICAGO, ILL.
A. F. Hussander, Architect, Chicago, Ill.


Running Track
Skylight Over
Upper Part of Boys Gymnasium
50
24-0"x30-0
Recitation Room
Store Rm
Music Room
34-0"x72-0"
Dressing Room
Corridor
Balcony
Skylight Over
Upper Part of Girls Gymnasium
Store Room
Store Room
Roof
Roof
Balcony
-51.-
24-0"x36-0
Skylight Over
Laundry
24-0"x29-0
Household Arts
Kitchen
24-0"x34-0"
Dining Rm
Living Rm
Exhibit Room
Reception Room
Bed Room
Bookbinding
24-0"x29-0"
Clay Modeling
24-0"x29-0
Store Room
Boys Toilet Rm
Store Room
Girls Toilet Rm
47.
Mechanical Drawing
48.
Mechanical Drawing
Electrical Laboratory
24-0"x27-0"
Physics Laboratory
24-0"x56-0"
Skylight Over
Priv Lab.
Store Rm.
Corridor
Skylight Over
Corridor
Skylight Over
Sewing
24-0"x34-0
Sewing
24-0"x29-0"
43.
24-0"x29-0"
44.
24-0"x29-0
Study Room
300 Seats
45.
Architectural Drawing
46.
24-0"x60-0
Freehand Drawing
49.
24-0"x48-0"
Physics.
Skylight
Corridor
Skylight
Textile Arts
24-0"x40-0"
Corridor
Skylight Over
Study Room
200 Seats
Skylight Over
Study Room
200 Seats
40-0"x80-0"

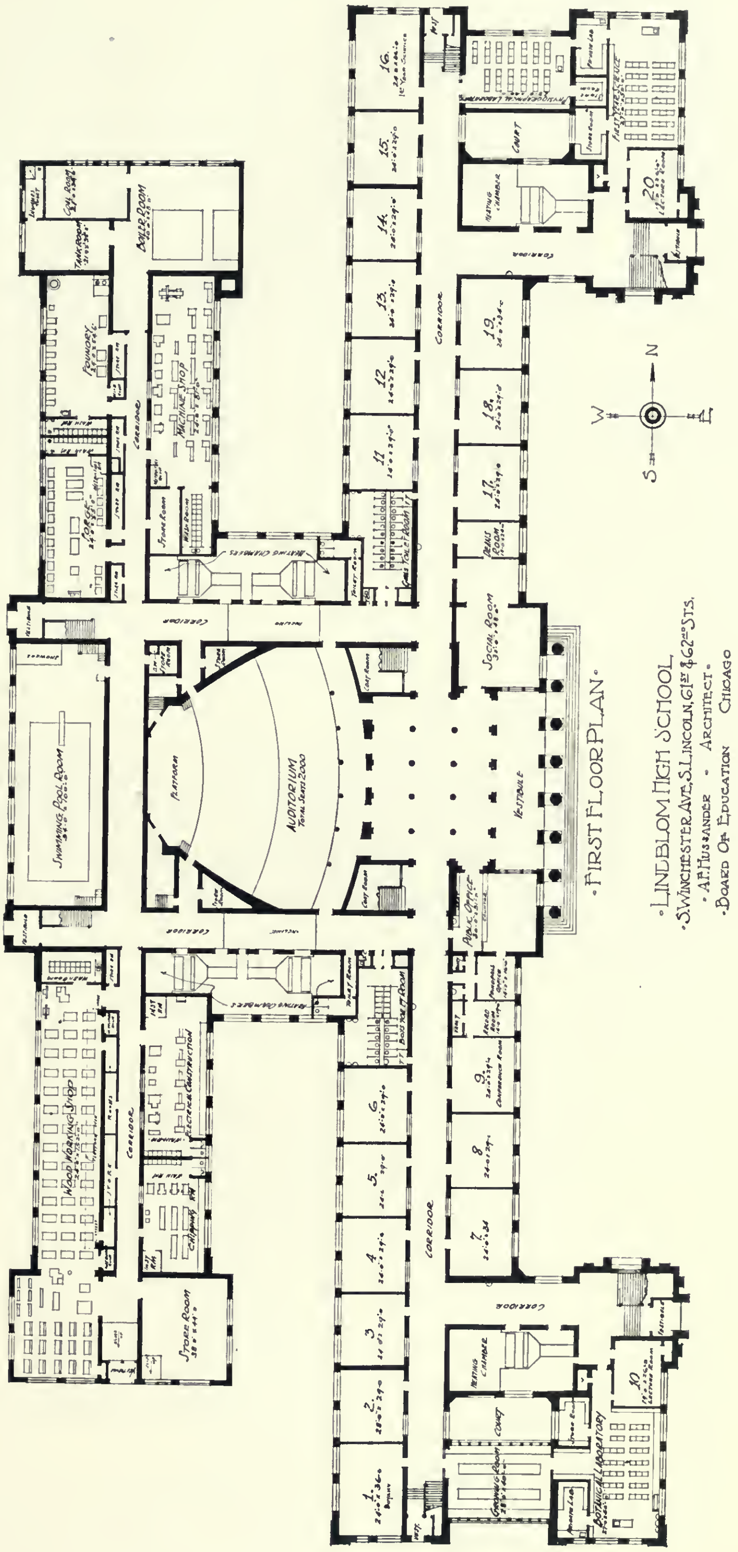
·THIRD FLOOR PLAN·

·LINDBLOM HIGH SCHOOL·
· S. WINCHESTER AVE, S. LINCOLN, 61ST & 62ND STS.
· A. F. HUSSANDER ARCHITECT·
·BOARD OF EDUCATION · CHICAGO·


Roof
Girls Gymnasium 64'0" x 125'0"
Boys Gymnasium 68'0" x 123'0"
Roof
Teachers Room
36 Book Keeping
35 Book Keeping
34 Type Writing
33 Type Writing
Locker Rm
Showers & Toilets
Girls Toilet Room
Corridor
Roof
Chemical Laboratory
Balance Room
Private Lab
41 Chemistry
42 Lecture Room
40
39
38
37
Rest Room
Toilet
Library
Dressing Rooms
Upper Part of Swimming Pool Rm
Balcony
Corridor
Store Room
Store Room
Store Room
Locker Rm
Showers & Toilets
Boys Toilet Room
26
25
24
23
22
21 Zoology
32
31
30
29
27
Store Room
28 Lecture Room
Zoological Laboratory
Glass Roof

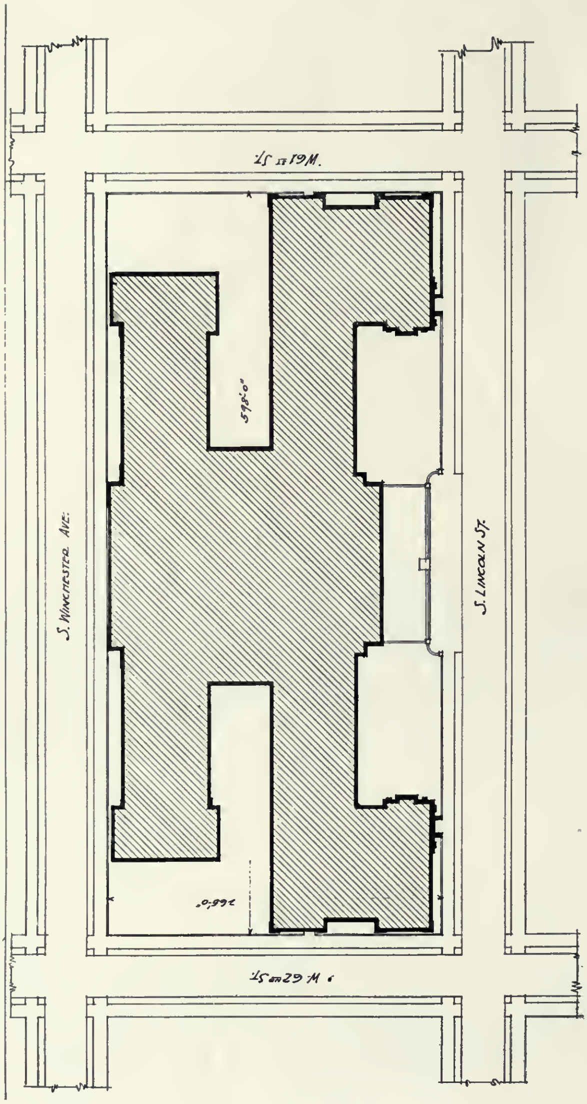
•Second Floor Plan•

•Lindblom High School
•S. Winchester Ave., S. Lincoln, 61st & 62nd Sts.•
•A. F. Hussander Architect•
•Board of Education • Chicago•


N
S
E
W
CORRIDOR
AUDITORIUM
TOTAL SEATS 2000
PLATFORM
VESTIBULE
SOCIAL ROOM
PUBLIC OFFICE
SWIMMING POOL ROOM
BOILER ROOM
TANK ROOM
FOUNDRY
FORGE
MACHINE SHOP
STORE ROOM
WASH ROOM
HEATING CHAMBERS
WOOD WORKING SHOP
ELECTRICAL CONSTRUCTION
STORE ROOM
HEATING CHAMBER
COURT
GROWING ROOM
BOTANICAL LABORATORY
PHYSICAL SCIENCE
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

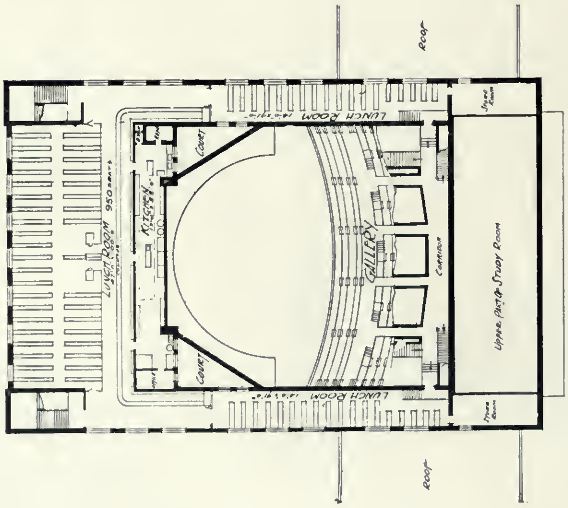
·FIRST FLOOR PLAN·

·LINDBLOM HIGH SCHOOL
·S. WINCHESTER AVE., S. LINCOLN, 61ST & 62ND STS.
· A. F. HUSSANDER · ARCHITECT·
·BOARD OF EDUCATION CHICAGO

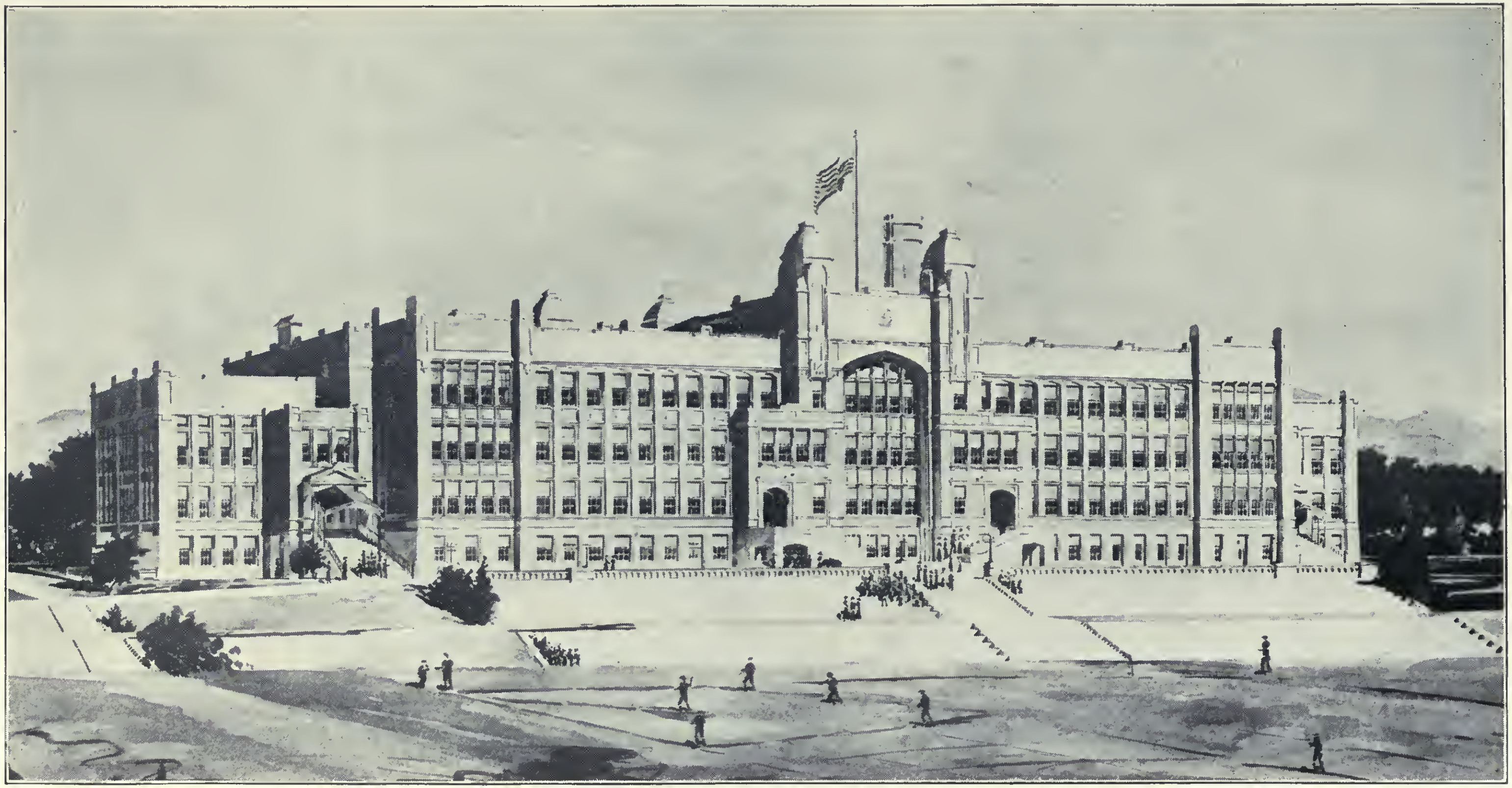

W. 61st St.
S. Winchester Ave.
S. Lincoln St.
598'0"
265'0"
W. 62nd St.

•PLAT PLAN•

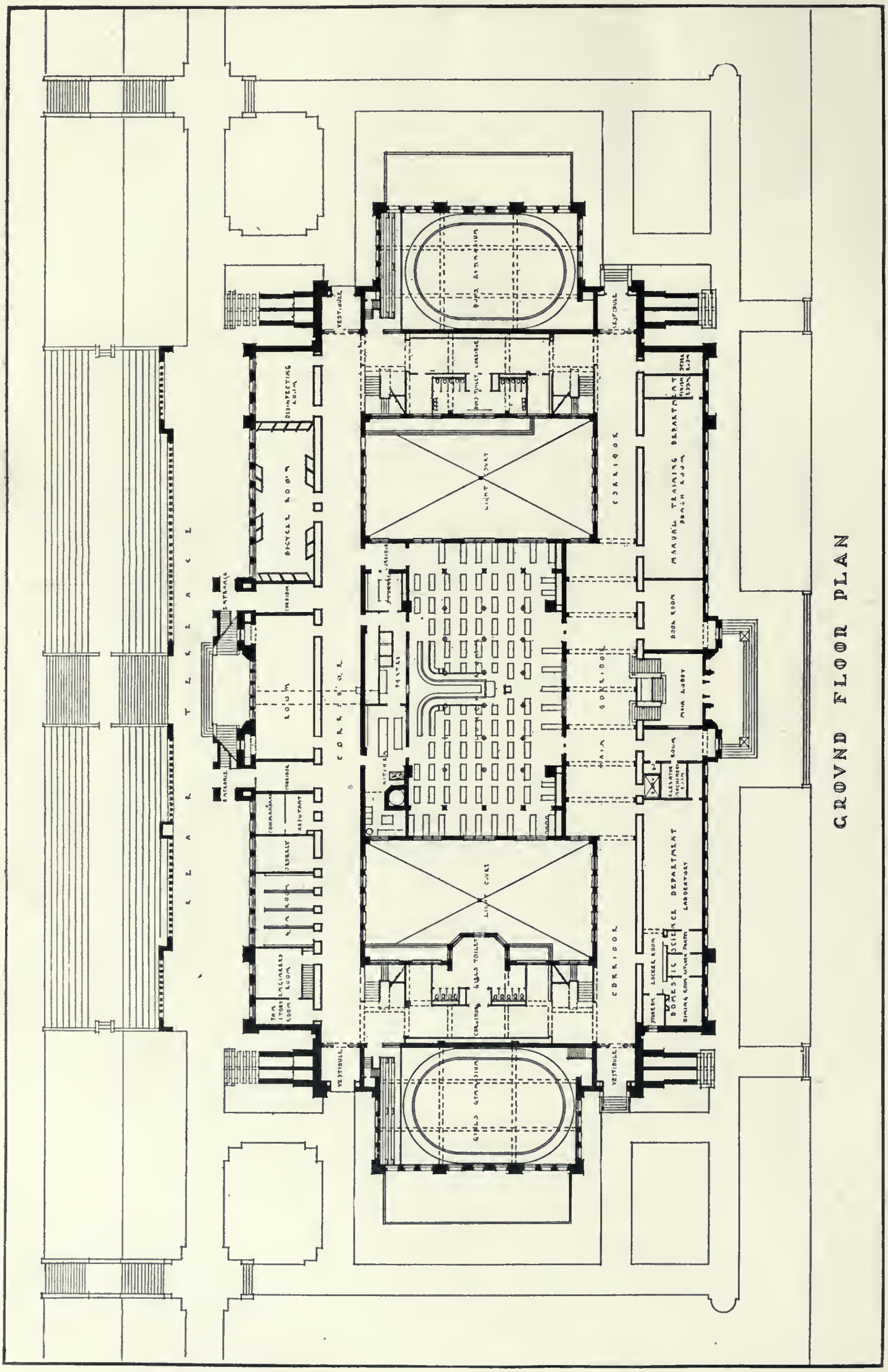
LINDBLOM HIGH SCHOOL, CHICAGO, ILL.


Roof
Lunch Room 950 seats
Kitchen
Court
Gallery
Corridor
Lunch Room
Upper Part of Study Room
Store Room
Roof

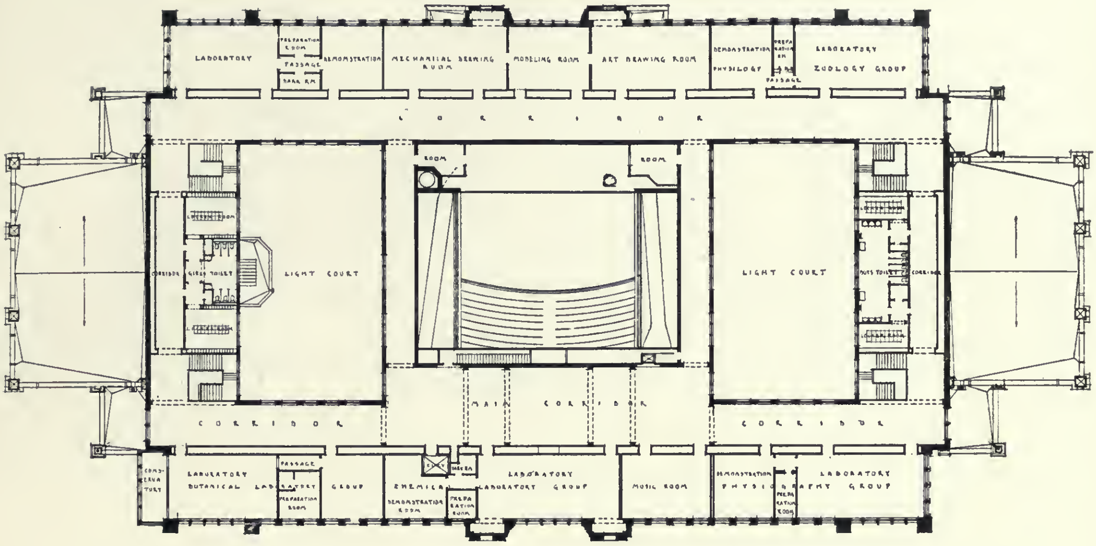
•LUNCH ROOM FLOOR PLAN•



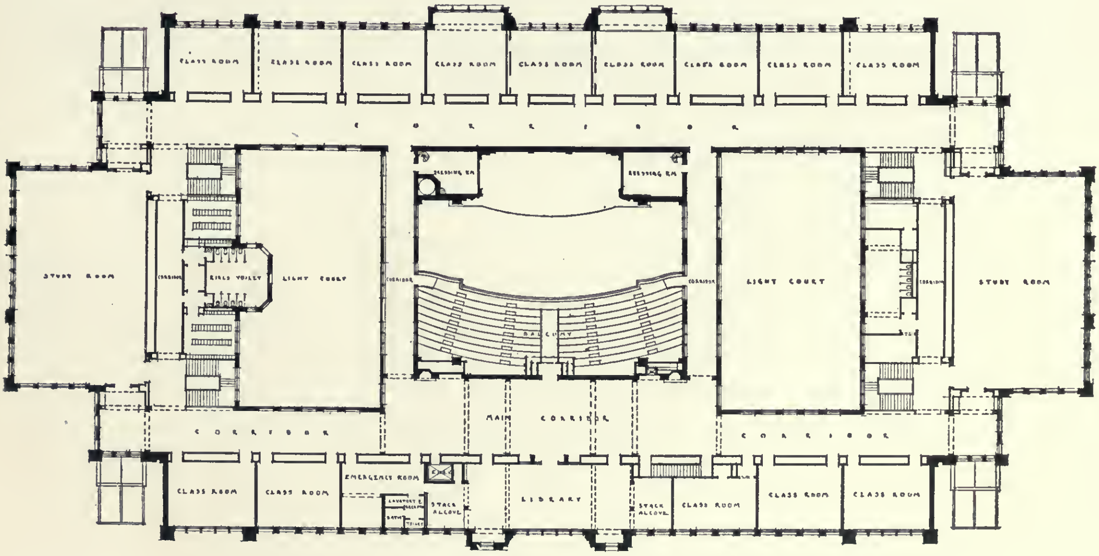
SALT LAKE HIGH SCHOOL, SALT LAKE CITY, UTAH.
Eldredge & Chesebro, Architects, Salt Lake City.


GROUND FLOOR PLAN
TERRACE
BOYS GYMNASIUM
GIRLS GYMNASIUM
VESTIBULE
LIGHT COURT
CORRIDOR
MAIN CORRIDOR
BICYCLE ROOM
DISINFECTING ROOM
ENGINEERS ROOM
PANTRY
MANUAL TRAINING DEPARTMENT
BOOK ROOM
MAIN LOBBY
SCIENCE DEPARTMENT LABORATORY
DOMESTIC SCIENCE
ENTRANCE

GROUND FLOOR AND PLAT PLAN, SALT LAKE HIGH SCHOOL, SALT LAKE CITY, UTAH.

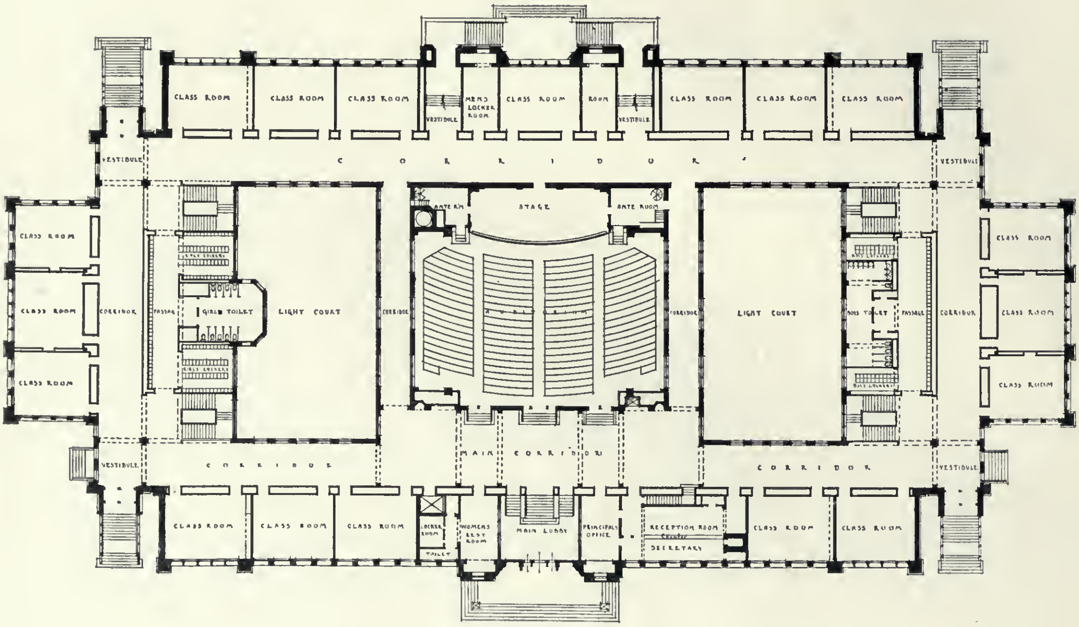

LABORATORY
PREPARATION ROOM
PASSAGE
DARK RM
DEMONSTRATION
MECHANICAL DRAWING ROOM
MODELING ROOM
ART DRAWING ROOM
DEMONSTRATION
PREPARATION RM
PASSAGE
PHYSIOLOGY
LABORATORY
ZOOLOGY GROUP
CORRIDOR
ROOM
ROOM
LOCKER ROOM
CORRIDOR
GIRLS TOILET
LIGHT COURT
LIGHT COURT
BOYS TOILET
CORRIDOR
MAIN CORRIDOR
CORRIDOR
CORRIDOR
CONSERVATORY
PASSAGE
LABORATORY
BOTANICAL LABORATORY GROUP
PREPARATION ROOM
CHEMICAL
DEMONSTRATION ROOM
PREPARATION ROOM
LABORATORY
LABORATORY GROUP
MUSIC ROOM
DEMONSTRATION
PHYSIOGRAPHY
PREPARATION ROOM
LABORATORY
GROUP

THIRD FLOOR PLAN


CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CORRIDOR
DRESSING RM
DRESSING RM
STUDY ROOM
CORRIDOR
GIRLS TOILET
LIGHT COURT
CORRIDOR
BALCONY
CORRIDOR
LIGHT COURT
CORRIDOR
STUDY ROOM
MAIN CORRIDOR
CORRIDOR
CORRIDOR
CLASS ROOM
CLASS ROOM
EMERGENCY ROOM
LAVATORY
BATH
TOILET
STACK ALCOVE
LIBRARY
STACK ALCOVE
CLASS ROOM
CLASS ROOM
CLASS ROOM

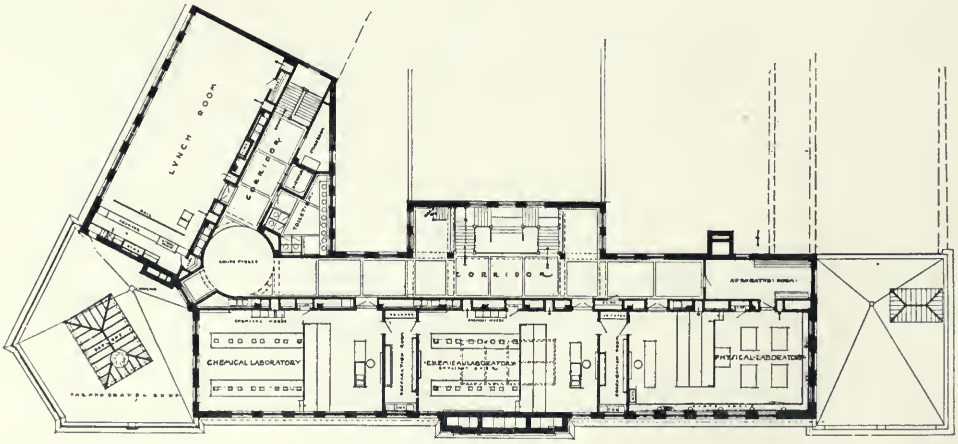
SECOND FLOOR PLAN

SALT LAKE HIGH SCHOOL, SALT LAKE CITY, UTAH.


CLASS ROOM
VESTIBULE
MENS LOCKER ROOM
ROOM
CORRIDOR
ANTE RM
STAGE
ANTE ROOM
PASSAGE
GIRLS TOILET
GIRLS LOCKERS
LIGHT COURT
AUDITORIUM
BOYS TOILET
BOYS LOCKERS
MAIN CORRIDOR
LOCKER ROOM
TOILET
WOMENS REST ROOM
MAIN LOBBY
PRINCIPALS OFFICE
RECEPTION ROOM
COUNTER
SECRETARY

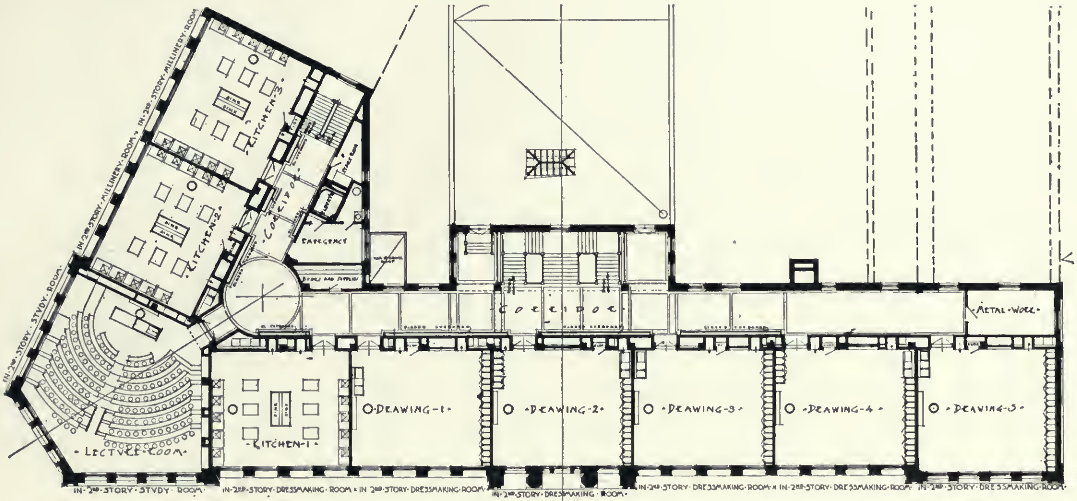
FIRST FLOOR PLAN

SALT LAKE HIGH SCHOOL, SALT LAKE CITY, UTAH.

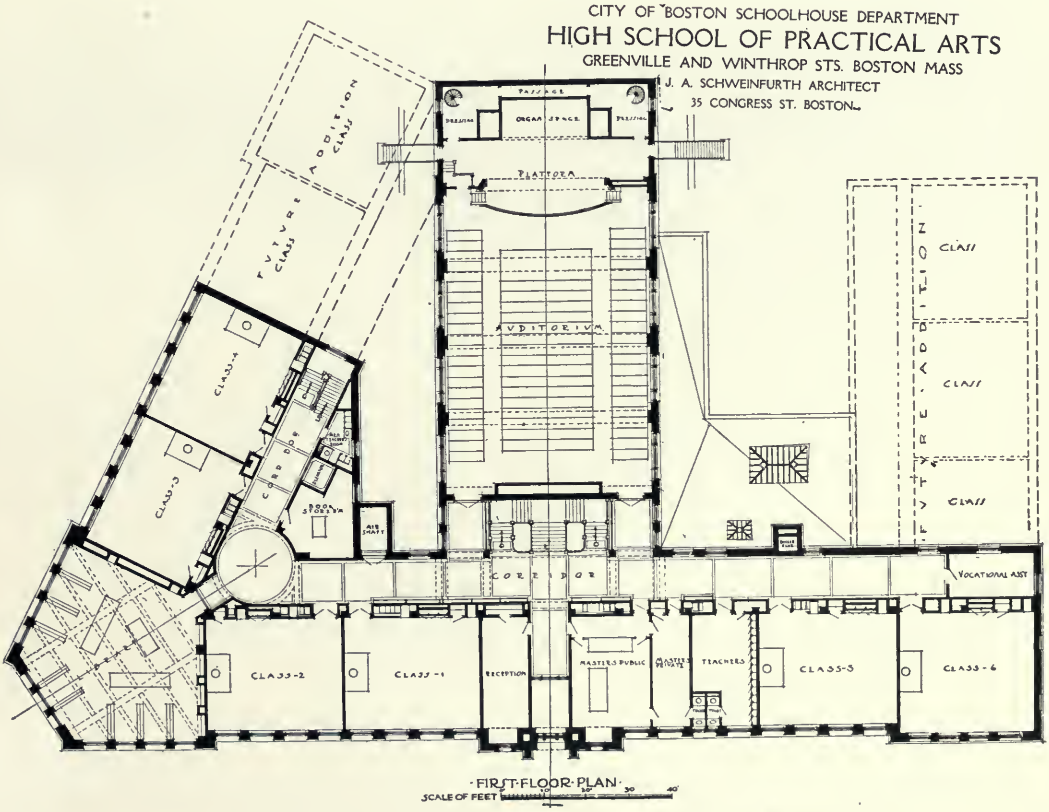

LVNCH ROOM
CORRIDOR
TOILET
CORRIDOR
APPARATVS ROOM
CHEMICAL LABORATORY
CHEMICAL LABORATORY
PHYSICAL LABORATORY
PREPARATION ROOM
PREPARATION ROOM
CHEMICAL HOODS
CHEMICAL HOODS
TAR AND GRAVEL ROOF

FOVRTH FLOOR PLAN
SCALE ONE EIGHTH INCH EQVALS ONE FOOT

GIRLS' HIGH SCHOOL OF PRACTICAL ARTS, BOSTON, MASS.
J. A. Schweinfurth, Architect, Boston.


IN·2ND·STORY·MILLINERY·ROOM
IN·2ND·STORY·MILLINERY·ROOM
IN·2ND·STORY·STUDY·ROOM
·KITCHEN·3·
·KITCHEN·2·
·CORRIDOR·
EMERGENCY
BOOKS AND SUPPLIES
·LECTURE·ROOM·
·KITCHEN·1·
CORRIDOR
O·DRAWING·1·
O ·DRAWING·2·
O ·DRAWING·3·
O ·DRAWING·4·
O ·DRAWING·5·
·METAL·WORK·
IN·2ND·STORY·STUDY·ROOM·
IN·2ND·STORY·DRESSMAKING·ROOM
IN 2ND·STORY·DRESSMAKING·ROOM·
IN·2ND·STORY·DRESSMAKING·ROOM·
IN·2ND·STORY·DRESSMAKING·ROOM
IN·2ND·STORY·DRESSMAKING·ROOM·
IN·2ND·STORY·DRESSMAKING·ROOM·

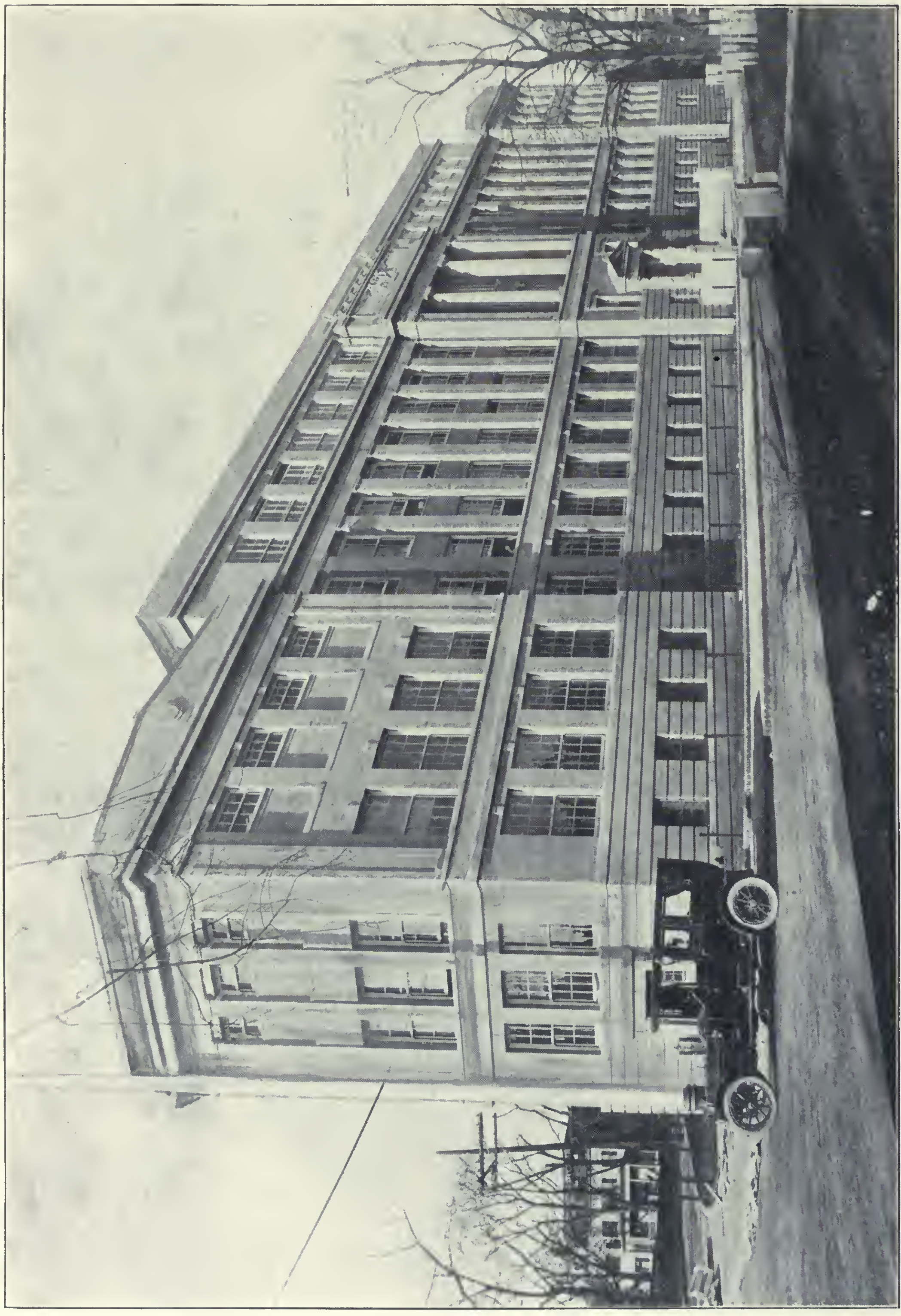
THIRD·FLOOR·PLAN·
ONE·EIGHTH·INCH·EQUALS·ONE·FOOT


FUTURE ADDITION CLASS
CLASS
PASSAGE
DRESSING
ORGAN SPACE
DRESSING
PLATFORM
AUDITORIUM
CLASS·4
CLASS·3
CORRIDOR
BOOK STORE RM
AIR SHAFT
CORRIDOR
FUTURE·ADDITION
CLASS
CLASS
CLASS
VOCATIONAL ASST
CLASS·2
CLASS·1
RECEPTION
MASTERS PUBLIC
MASTERS PRIVATE
TEACHERS
CLASS·5
CLASS·6

CITY OF BOSTON SCHOOLHOUSE DEPARTMENT
HIGH SCHOOL OF PRACTICAL ARTS
GREENVILLE AND WINTHROP STS. BOSTON MASS
J. A. SCHWEINFURTH ARCHITECT
35 CONGRESS ST. BOSTON.

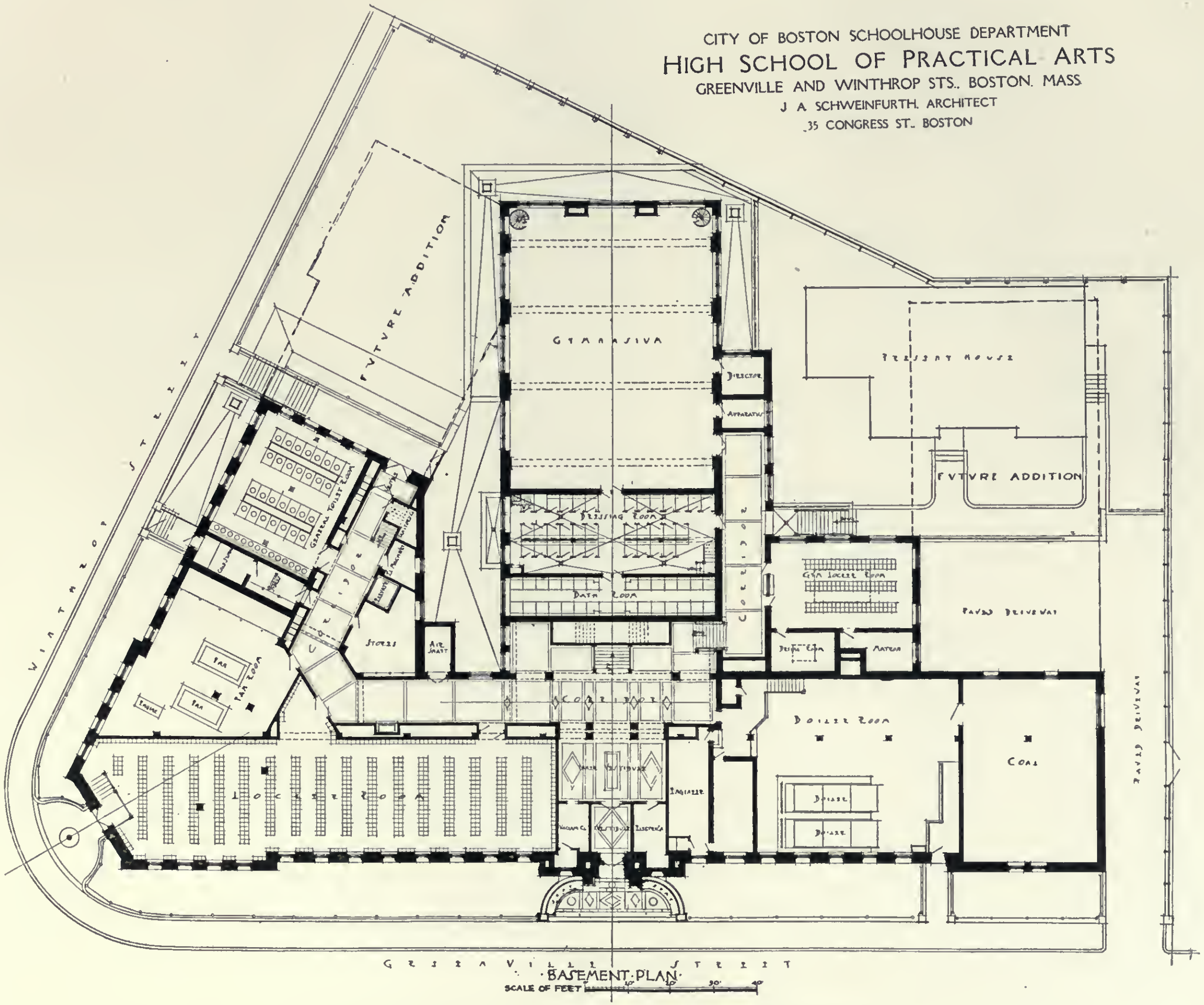
·FIRST·FLOOR·PLAN·
SCALE OF FEET 0 10 20 30 40

GIRLS' HIGH SCHOOL OF PRACTICAL ARTS, BOSTON, MASS.

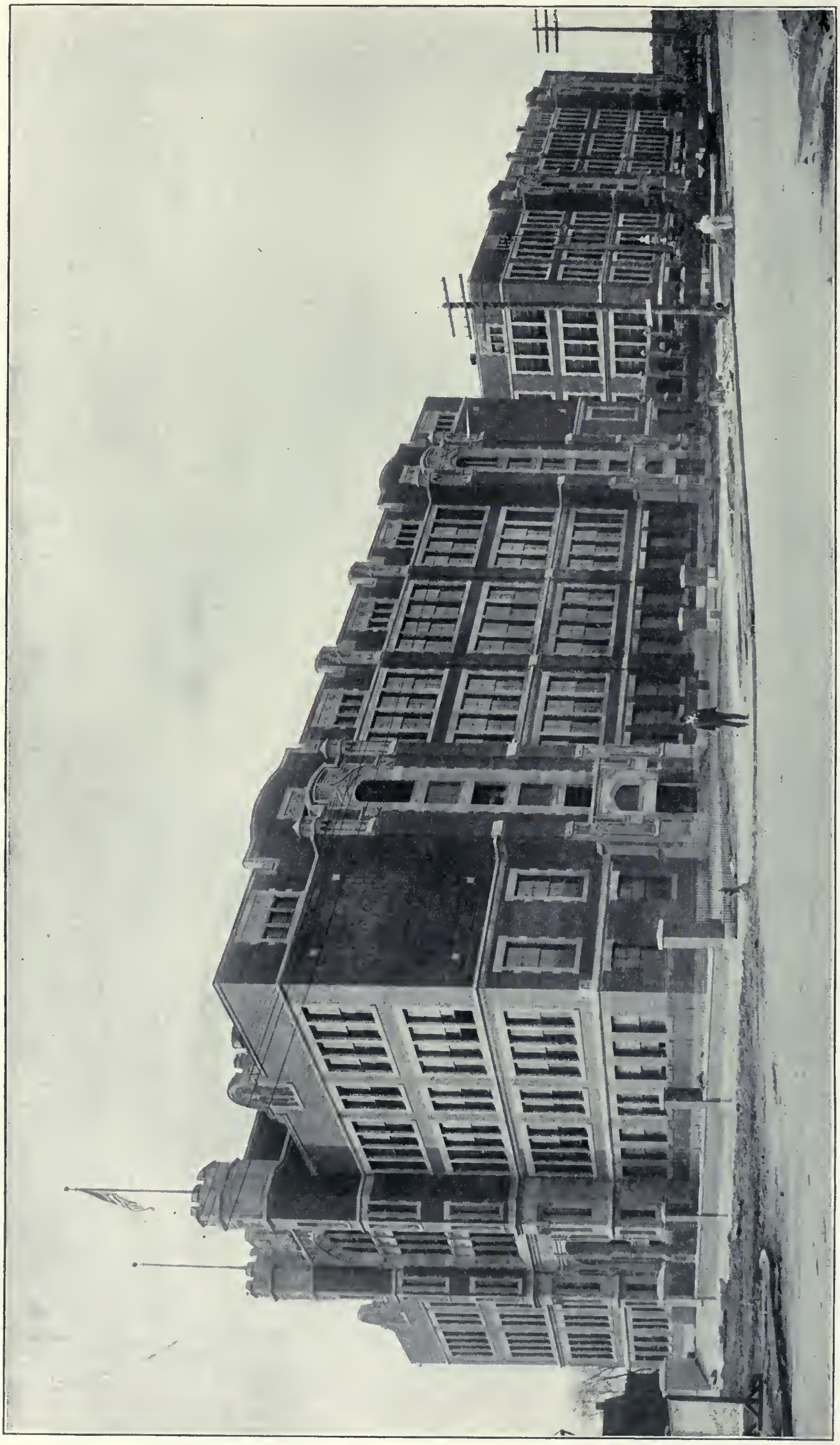


GIRLS' HIGH SCHOOL OF PRACTICAL ARTS, BOSTON, MASS.

J. A. Schweinfurth, Architect, Boston.

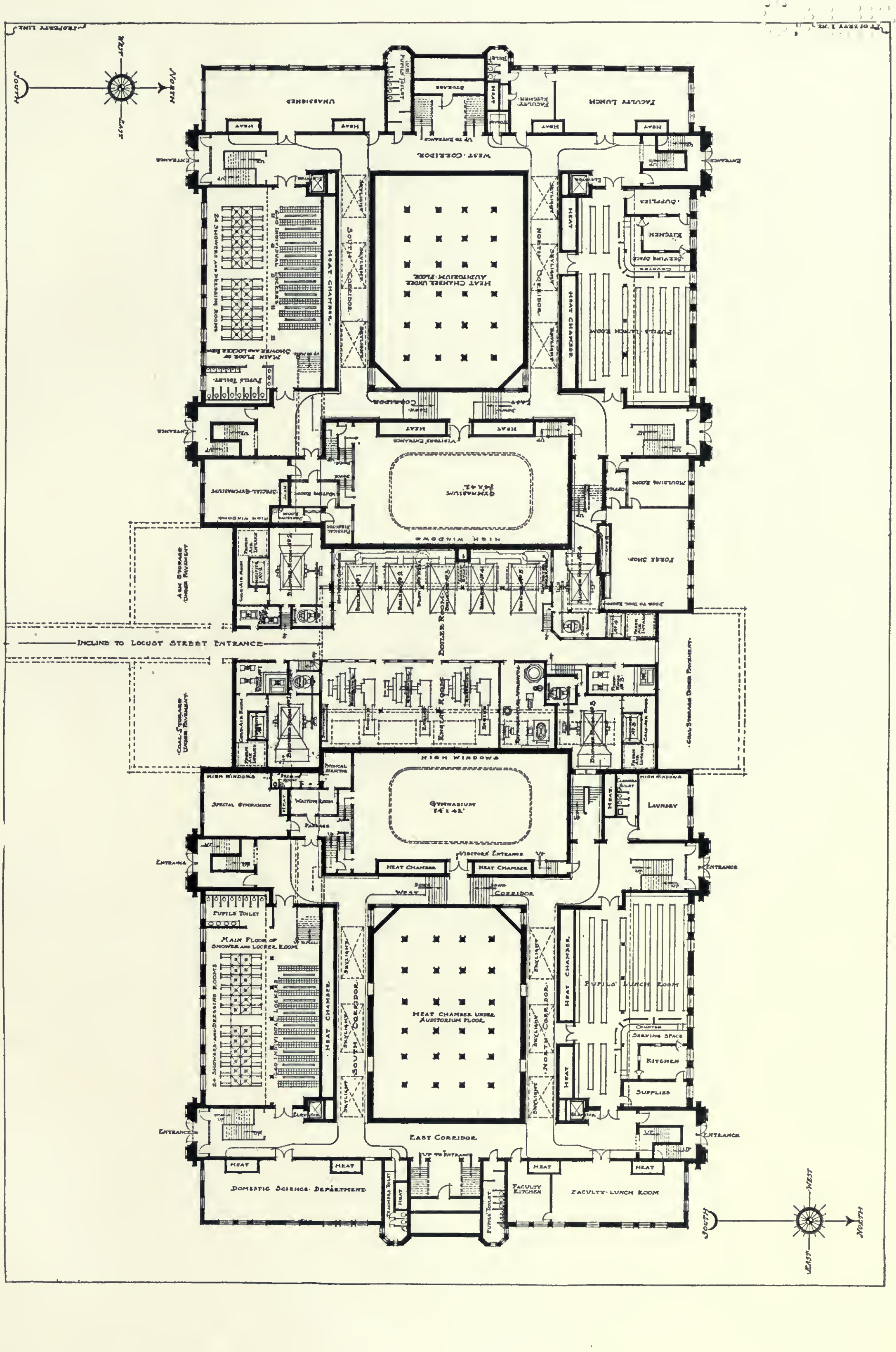

CITY OF BOSTON SCHOOLHOUSE DEPARTMENT
HIGH SCHOOL OF PRACTICAL ARTS
GREENVILLE AND WINTHROP STS., BOSTON, MASS
J A SCHWEINFURTH, ARCHITECT
35 CONGRESS ST., BOSTON
GYMNASIUM
DIRECTOR
APPARATUS
DRESSING ROOM
BATH ROOM
CORRIDOR
GYM LOCKER ROOM
MATRON
PRESENT HOUSE
FUTURE ADDITION
PAVED DRIVEWAY
BOILER ROOM
BOILER
BOILER
COAL
ENGINEER
VESTIBULE
VESTIBULE
ELECTRICAL
LOCKER ROOM
FAN ROOM
FAN
FAN
ENGINE
GENERAL TOILET ROOM
JANITOR
STORES
AIR SHAFT
FUTURE ADDITION
WINTHROP STREET
GREENVILLE STREET
BASEMENT PLAN
SCALE OF FEET
10
20
30
40

GIRLS' HIGH SCHOOL OF PRACTICAL ARTS, BOSTON, MASS.

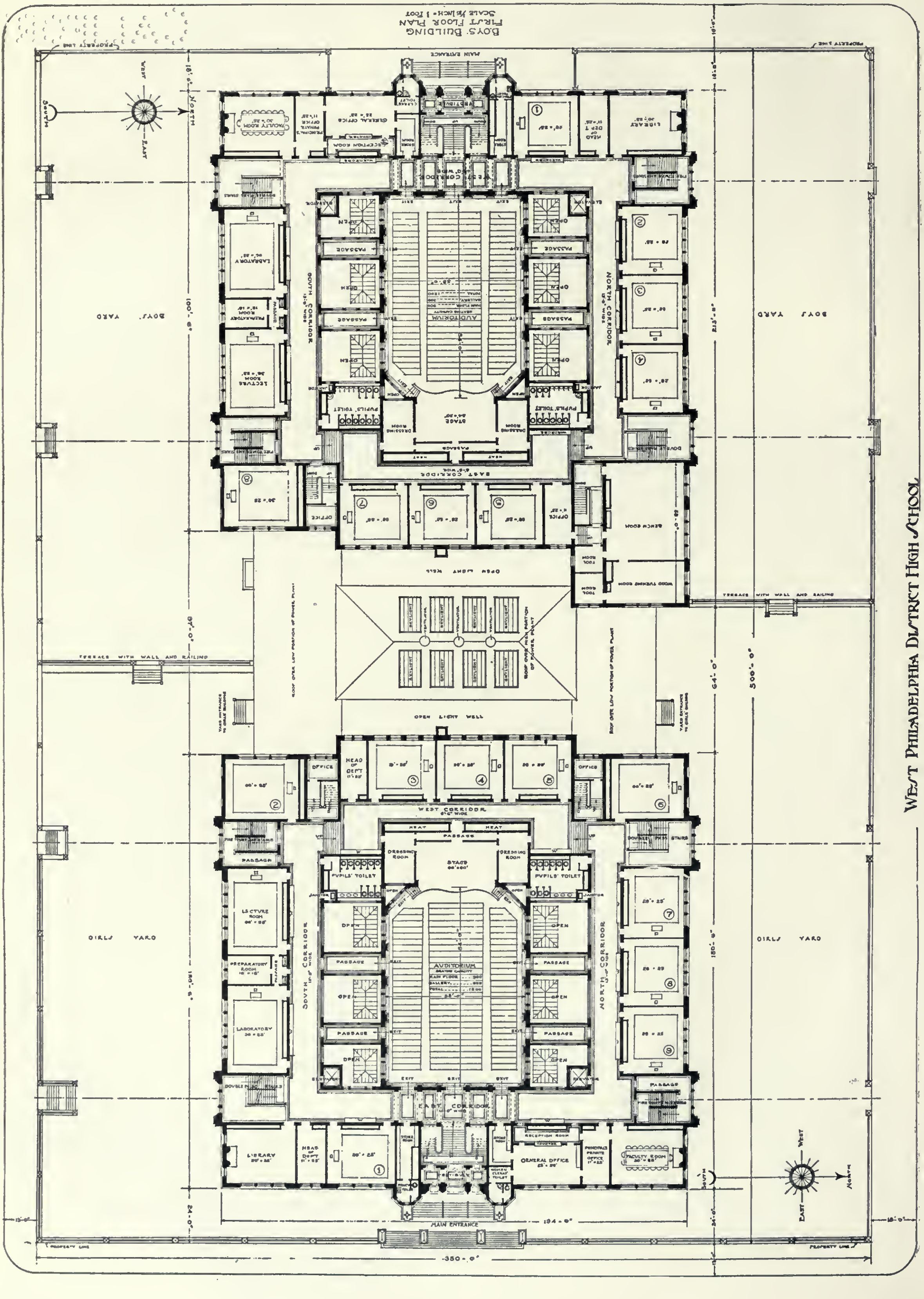


WEST PHILADELPHIA DISTRICT HIGH SCHOOL, PHILADELPHIA, PA.

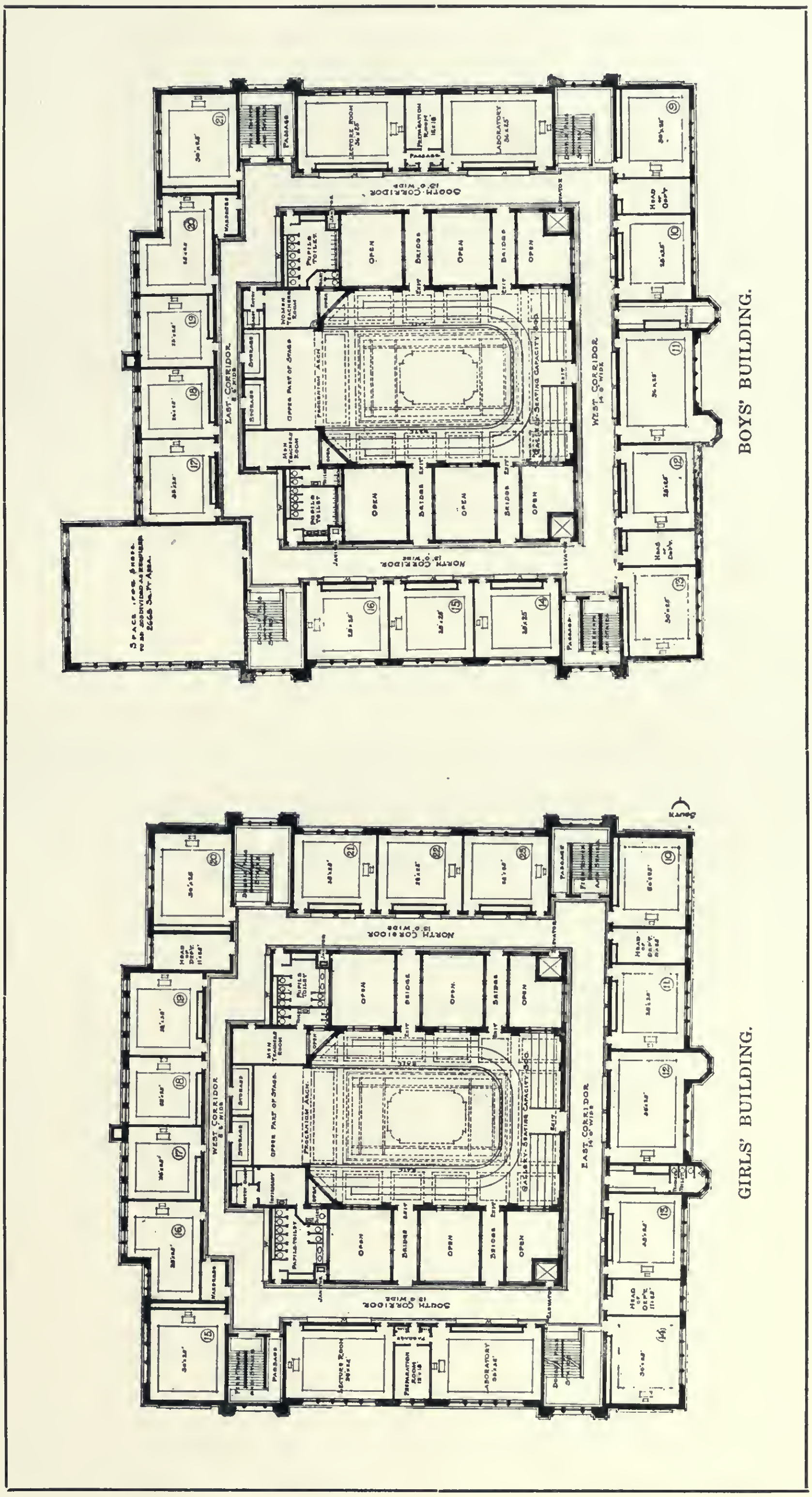
J. Horace Cook, Architect; H. Courcy Richards, Designer, Philadelphia.


PROPERTY LINE
SOUTH
NORTH
EAST
WEST
UNASSIGNED
FACULTY LUNCH
FACULTY KITCHEN
STORAGE
PUPILS' TOILET
UP TO ENTRANCE
WEST CORRIDOR
SUPPLIES
KITCHEN
SERVING SPACE
COUNTER
HEAT CHAMBER UNDER AUDITORIUM FLOOR
MOULDING ROOM
FORGE SHOP
DOOR TO TOOL ROOM
ASH STORAGE UNDER PAVEMENT
INCLINE TO LOCUST STREET ENTRANCE
BOILER ROOM
ENGINE ROOM
COAL STORAGE UNDER PAVEMENT
HIGH WINDOWS
SPECIAL GYMNASIUM
PHYSICAL DIRECTOR
WAITING ROOM
PASSAGE
GYMNASIUM 54' x 42'
VISITORS' ENTRANCE
HEAT CHAMBER
LAUNDRY
CLEANERS' TOILET
HEAT
ENTRANCE
UP
DOWN
WEST CORRIDOR
PUPILS' TOILET
MAIN FLOOR OF SHOWER AND LOCKER ROOM
24 SHOWERS AND DRESSING ROOMS
640 INDIVIDUAL LOCKERS
SKYLIGHT
SOUTH CORRIDOR
NORTH CORRIDOR
PUPILS' LUNCH ROOM
ELEVATOR
EAST CORRIDOR
UP TO ENTRANCE
DOMESTIC SCIENCE DEPARTMENT
TEACHERS' TOILET
FACULTY KITCHEN
FACULTY LUNCH ROOM

BASEMENT PLAN, WEST PHILADELPHIA DISTRICT HIGH SCHOOL, PHILADELPHIA, PA.


Boys' Building
First Floor Plan
Scale 1/16 Inch = 1 Foot
West Philadelphia District High School
Main Entrance
Boys' Yard
Girls' Yard
West Corridor
East Corridor
North Corridor
South Corridor
Auditorium
Stage
Dressing Room
Pupils' Toilet
Open
Passage
Exit
Janitor
Elevator
Library
Head of Dep't
Faculty Room
General Office
Reception Room
Principal's Private Office
Laboratory
Preparatory Room
Lecture Room
Double Flight Stairs
Fire Tower Enclosed Stairs
Office
Bench Room
Wood Turning Room
Tool Room
Open Light Well
Skylight
Ventilator
Roof over low portion of power plant
Roof over high portion of power plant
Terrace with wall and railing
Yard entrance to boys building
Yard entrance to girls building
Property Line
North
South
East
West
350'-0"
500'-0"
194'-0"
213'-8"
180'-8"
100'-8"
64'-0"
24'-0"
18'-0"

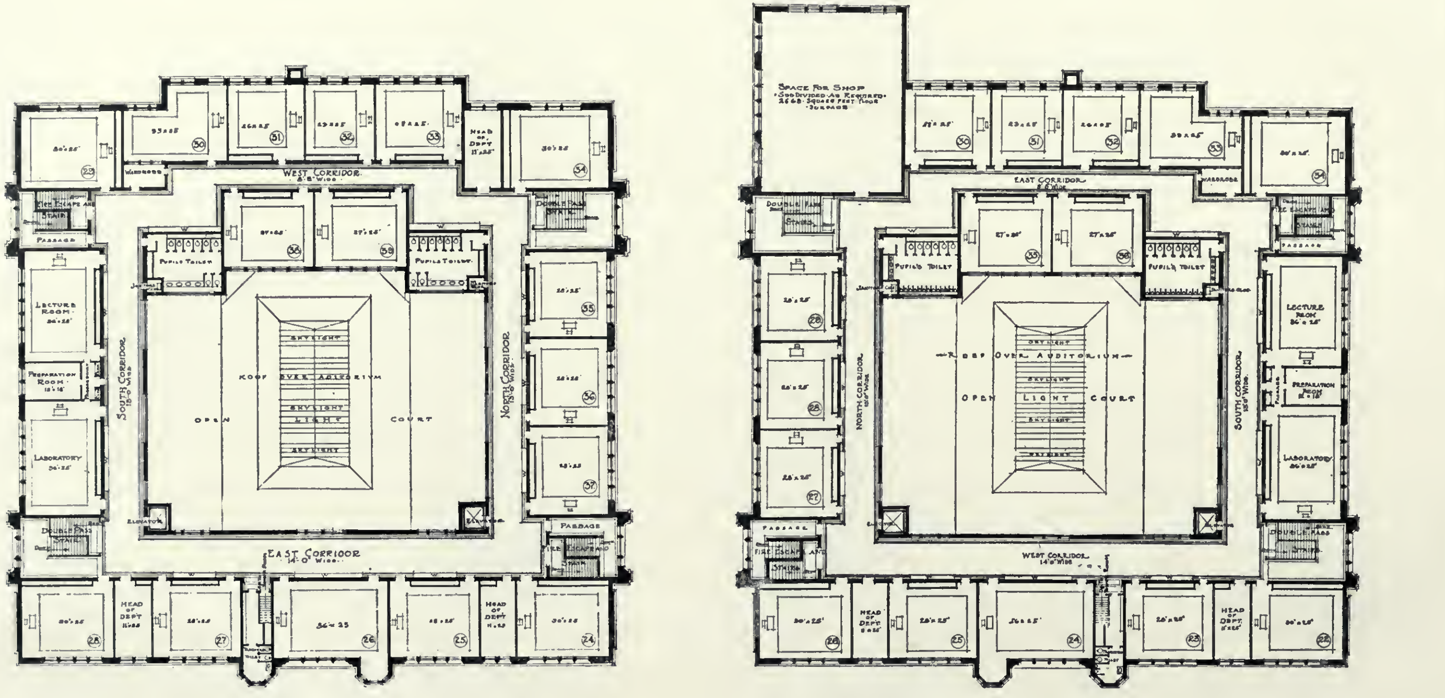
FIRST FLOOR PLAN, WEST PHILADELPHIA HIGH SCHOOL, PHILADELPHIA, PA.


BOYS' BUILDING.

GIRLS' BUILDING.

SOUTH CORRIDOR 13'0" WIDE
NORTH CORRIDOR 13'0" WIDE
EAST CORRIDOR
WEST CORRIDOR 14'0" WIDE
LECTURE ROOM
PREPARATION ROOM
LABORATORY
OPEN
BRIDGE
UPPER PART OF STAGE
PROSCENIUM ARCH
PUPILS TOILET
HEAD OF DEP'T
PASSAGE
STORAGE
ELEVATOR
SPACE FOR SHOPS TO BE SUBDIVIDED AS REQUIRED 2668 SQ. FT. AREA
EAST CORRIDOR 14'0" WIDE
WEST CORRIDOR

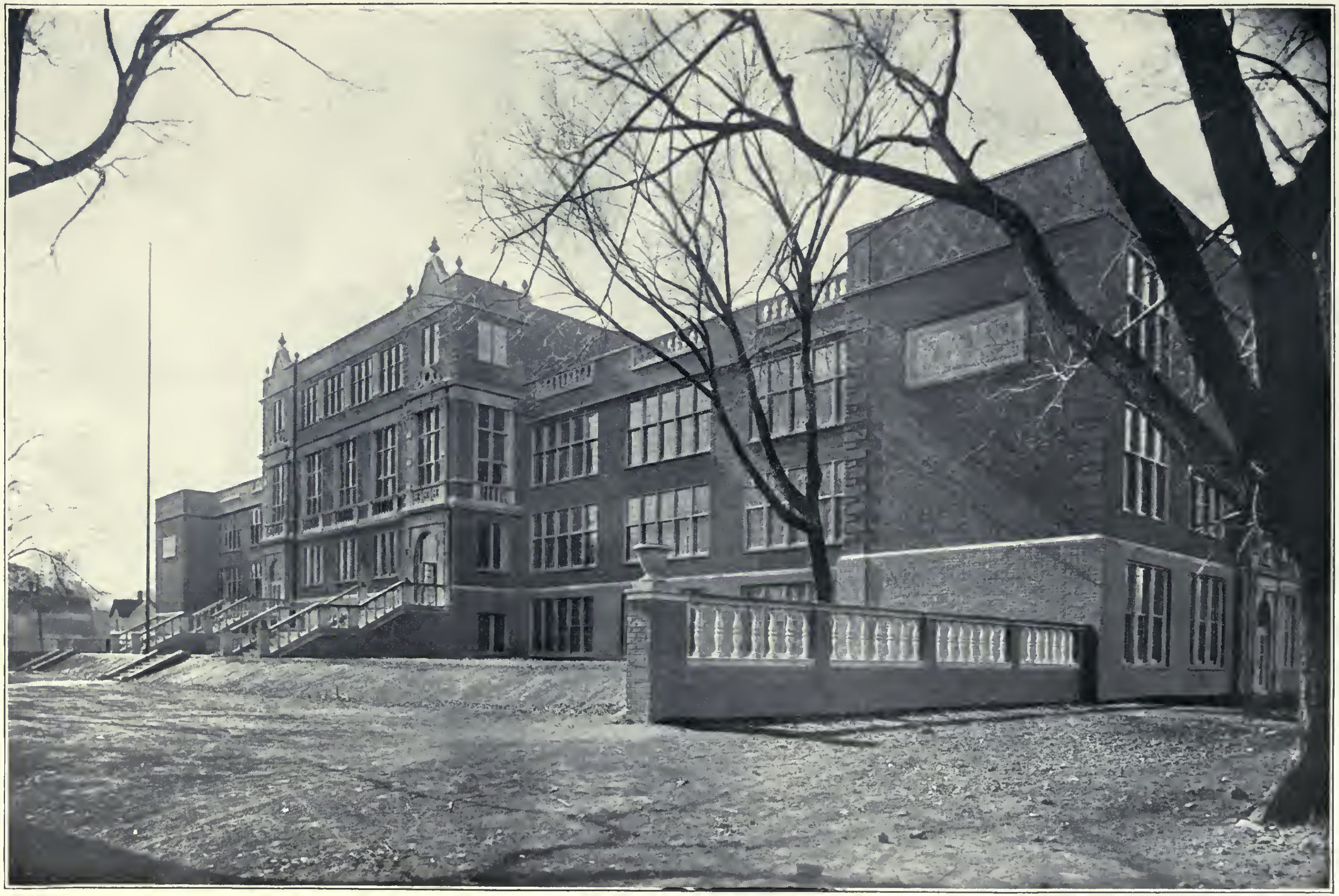
SECOND FLOOR PLAN, WEST PHILADELPHIA DISTRICT HIGH SCHOOL, PHILADELPHIA, PA.


WEST CORRIDOR
SOUTH CORRIDOR
NORTH CORRIDOR
EAST CORRIDOR
LECTURE ROOM
PREPARATION ROOM
LABORATORY
HEAD OF DEPT
PUPILS TOILET
ROOF OVER AUDITORIUM
SKYLIGHT
OPEN LIGHT COURT
ELEVATOR
PASSAGE
WARDROBE
DOUBLE PASS STAIR
FIRE ESCAPE AND STAIR
SPACE FOR SHOP
SUBDIVIDED AS REQUIRED

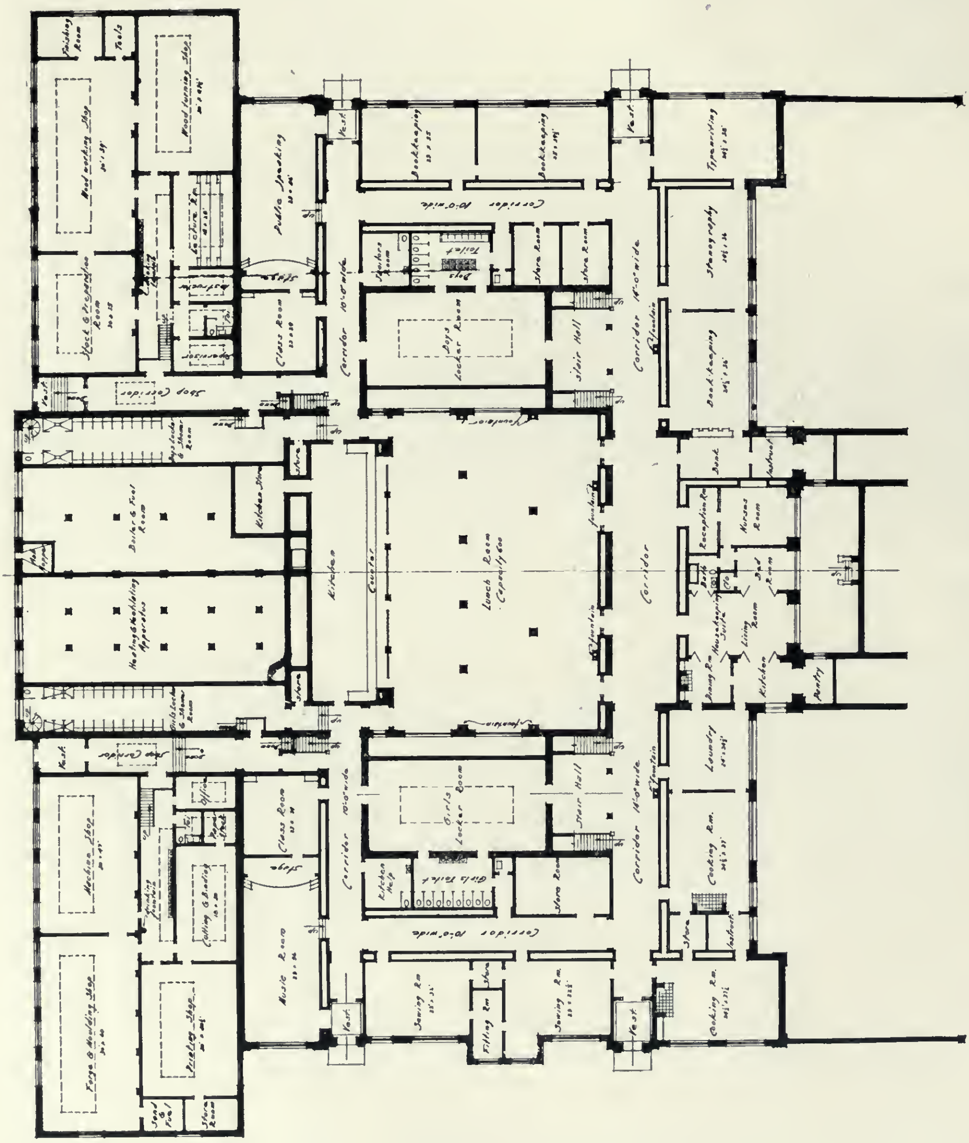
GIRLS' BUILDING.

BOYS' BUILDING.

WEST PHILADELPHIA DISTRICT HIGH SCHOOL, PHILADELPHIA, PA.
J. Horace Cook, Architect; H. Courcy Richards, Designer, Philadelphia.

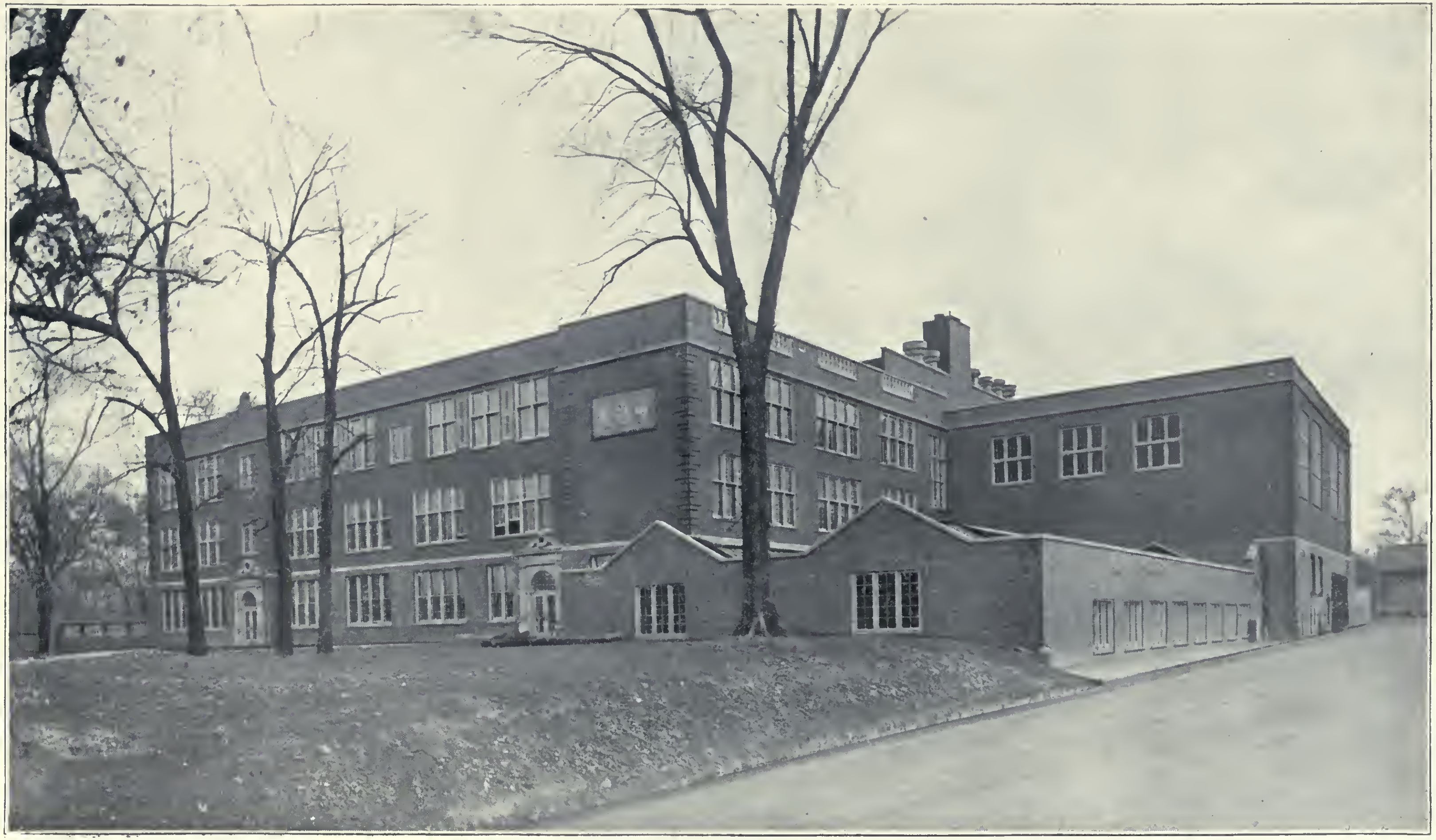


HIGH SCHOOL, SPRINGFIELD, ILL.
William B. Ittner, Architect, St. Louis, Mo.

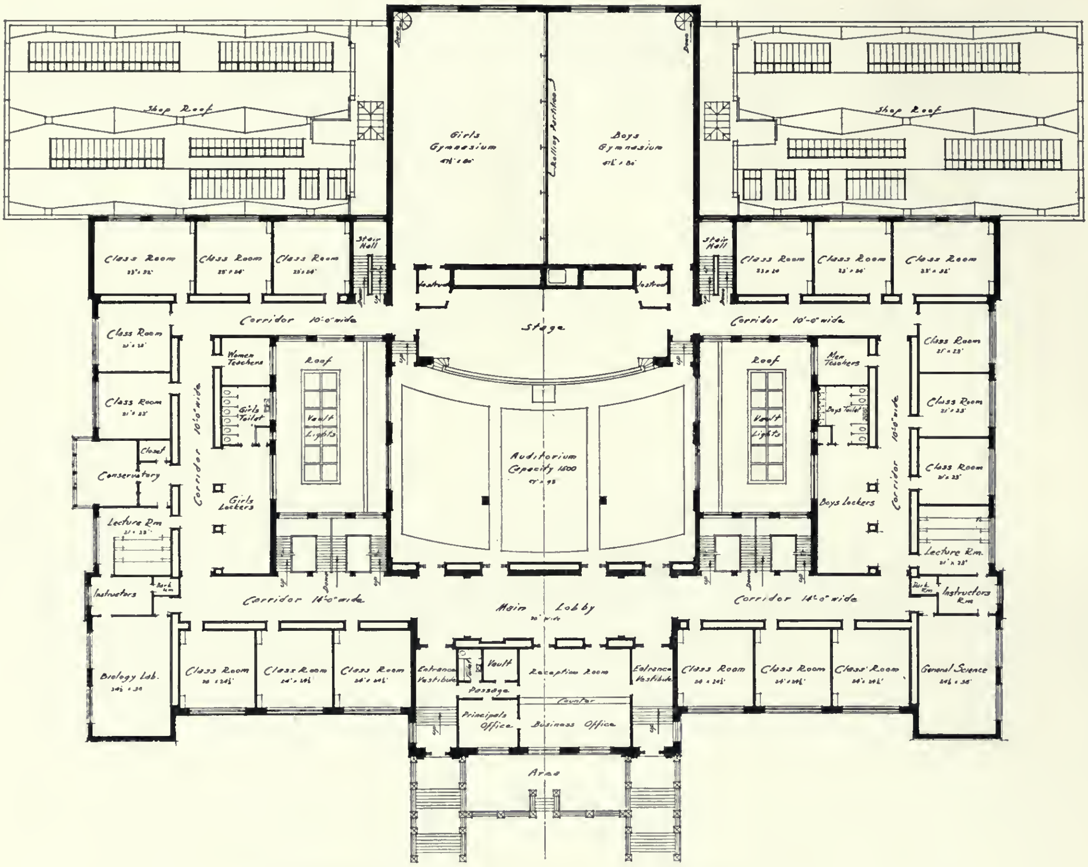

Lunch Room
Capacity 600
Kitchen
Counter
Boiler & Fuel Room
Heating & Ventilating Apparatus
Corridor
Corridor 10'-0" wide
Boys Locker Room
Girls Locker Room
Stair Hall
Bookkeeping
Typewriting
Stenography
Laundry
Cooking Rm.
Sewing Rm.
Fitting Rm
Store Room
Music Room
Class Room
Public Speaking
Wood working Shop
Wood turning Shop
Machine Shop
Forge & Moulding Shop
Kitchen
Living Room
Dining Rm
Pantry
Nurses Room
Reception Rm
Vest.

GROUND FLOOR PLAN, HIGH SCHOOL, SPRINGFIELD, ILL.

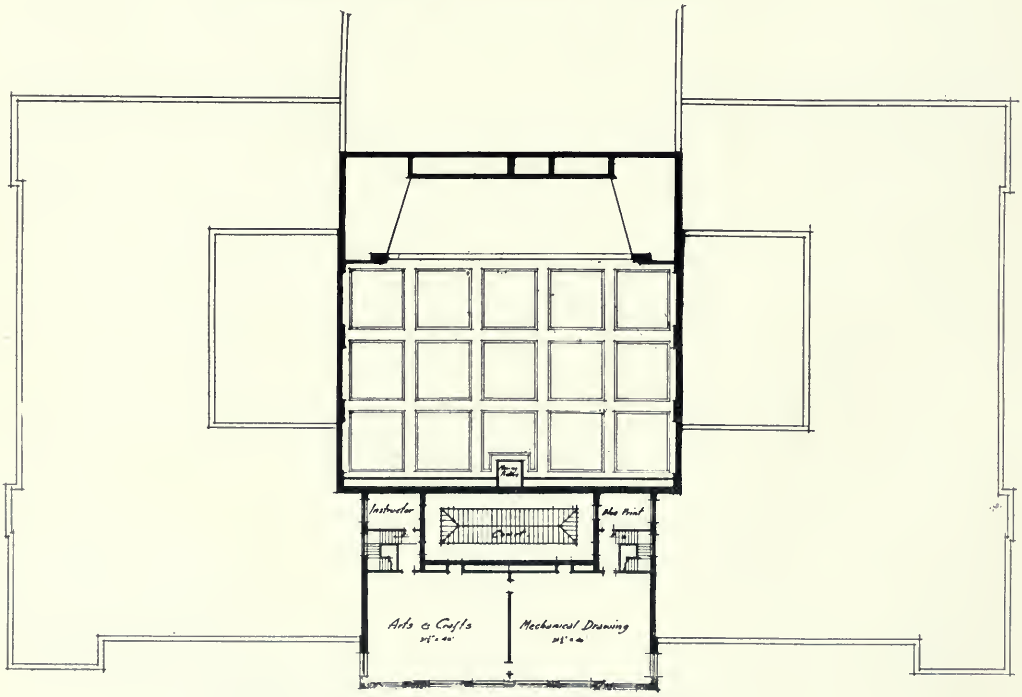
William B. Ittner, Architect, St. Louis, Mo.



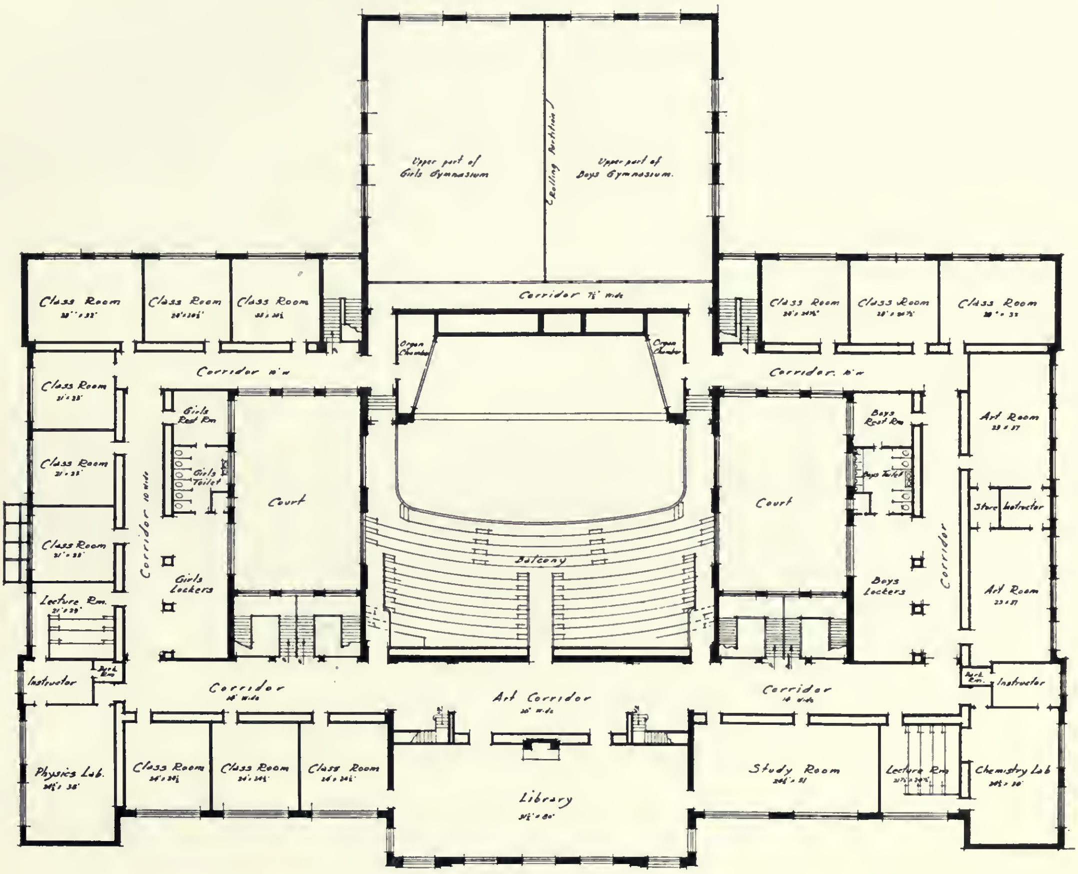
REAR VIEW, HIGH SCHOOL, SPRINGFIELD, ILL.


Shop Roof
Girls Gymnasium
Rolling Partition
Boys Gymnasium
Stair Hall
Class Room
Instructor
Stage
Corridor 10'-0" wide
Roof
Women Teachers
Men Teachers
Girls Toilet
Boys Toilet
Vault Lights
Conservatory
Closet
Girls Lockers
Boys Lockers
Auditorium Capacity 1500
Lecture Rm.
Instructors
Instructors Rm.
Dark Rm.
Biology Lab.
General Science
Corridor 14'-0" wide
Main Lobby
Entrance Vestibule
Vault
Reception Room
Passage
Counter
Principals Office
Business Office
Area
Up
Down

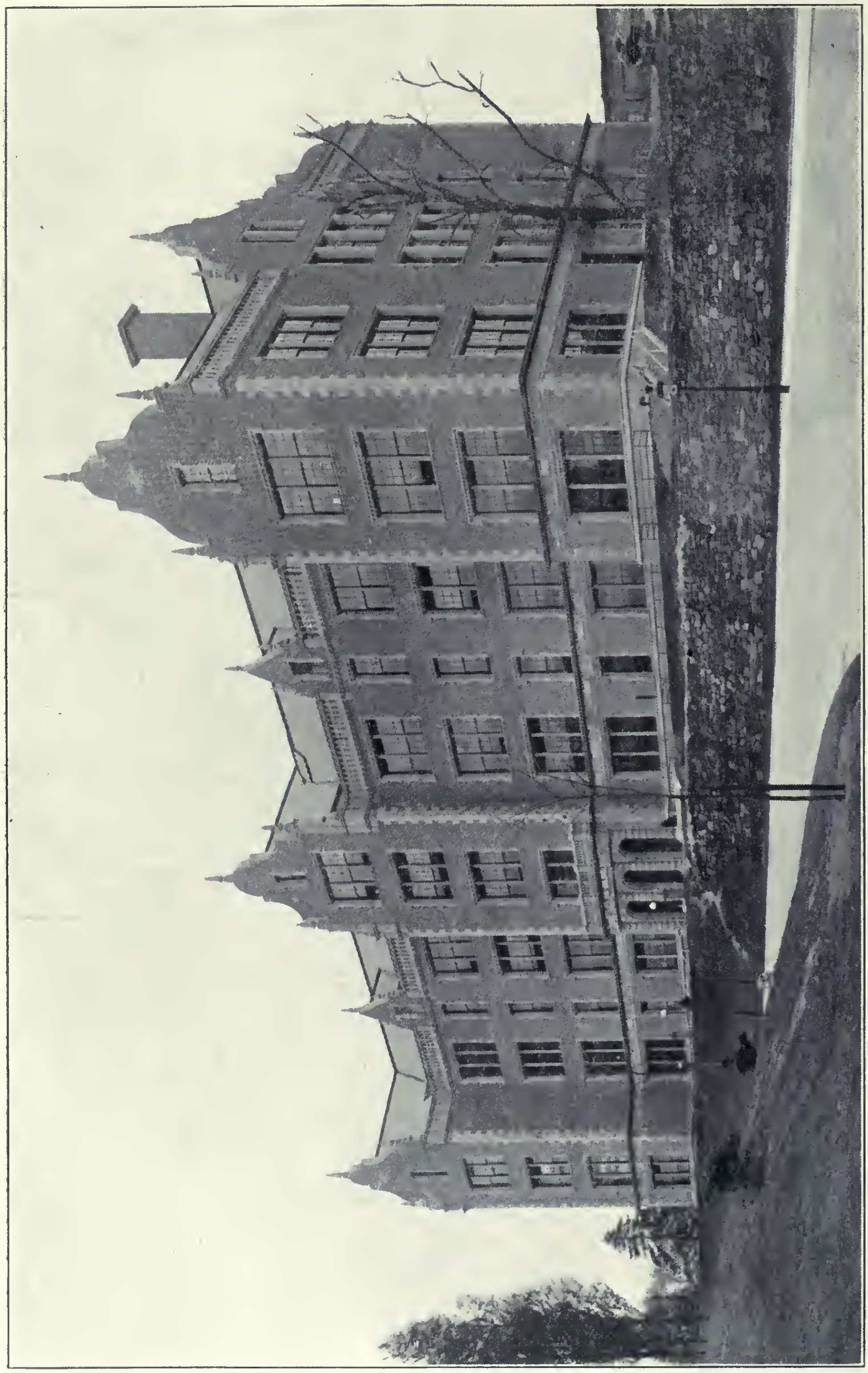
FIRST FLOOR PLAN, HIGH SCHOOL, SPRINGFIELD, ILL.


Instructor
Blue Print
Arts & Crafts
Mechanical Drawing

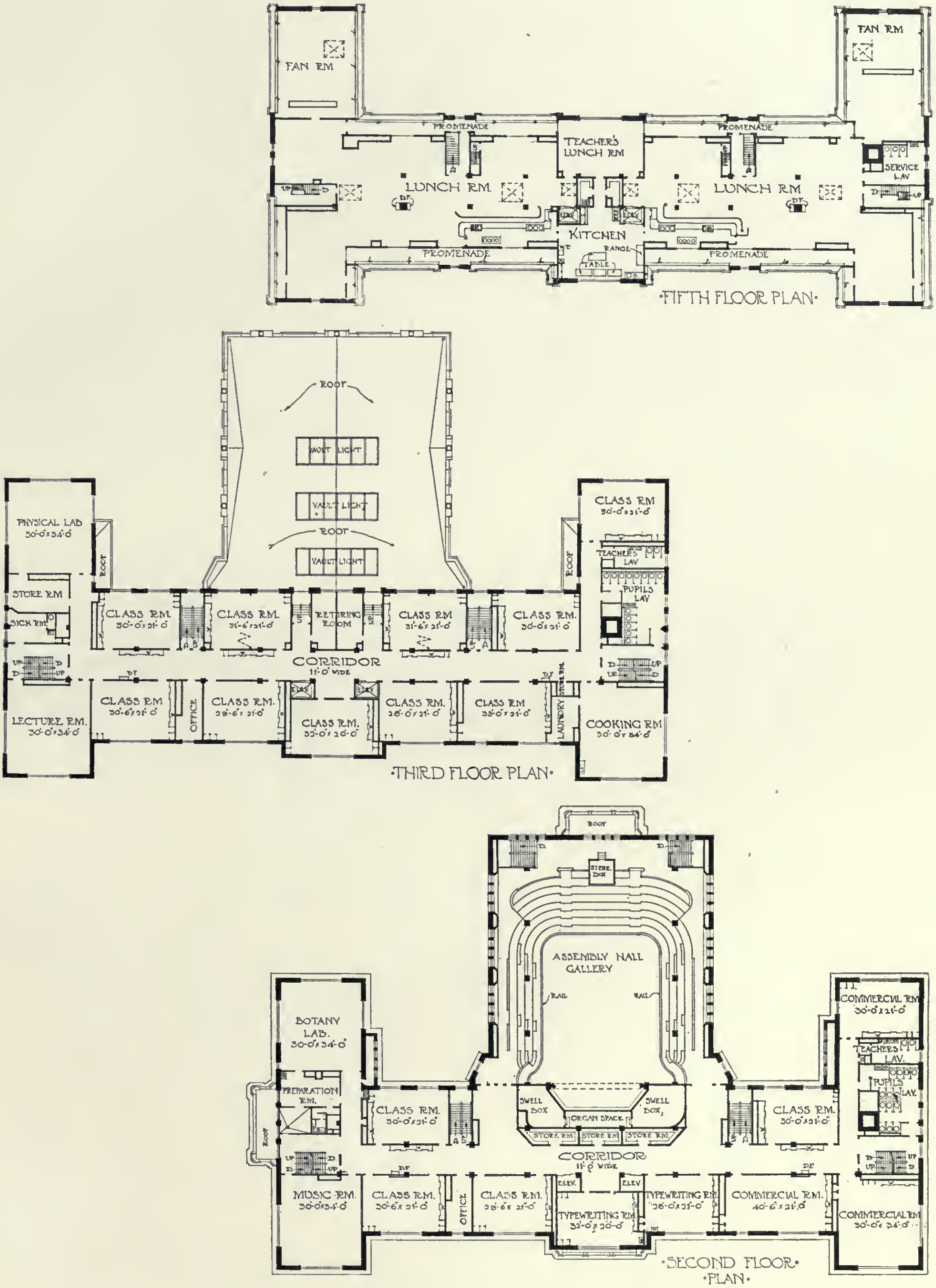
THIRD FLOOR PLAN, HIGH SCHOOL, SPRINGFIELD, ILL.


Upper part of Girls Gymnasium
Rolling Partition
Upper part of Boys Gymnasium
Corridor 7½' wide
Class Room
Class Room
Class Room
Class Room
Class Room
Class Room
Organ Chamber
Organ Chamber
Corridor 10' w
Corridor 10' w
Class Room
21' x 28'
Girls Rest Rm
Court
Boys Rest Rm
Art Room
23 x 37
Class Room
21' x 28'
Girls Toilet
Boys Toilet
Store
Instructor
Class Room
21' x 28'
Corridor 10' wide
Girls Lockers
Balcony
Boys Lockers
Corridor
Court
Art Room
23 x 37
Lecture Rm.
21' x 29'
Instructor
Dark Rm.
Corridor
14' wide
Art Corridor
20' wide
Corridor
14' wide
Dark Rm.
Instructor
Physics Lab.
Class Room
Class Room
Class Room
Library
Study Room
Lecture Rm
Chemistry Lab

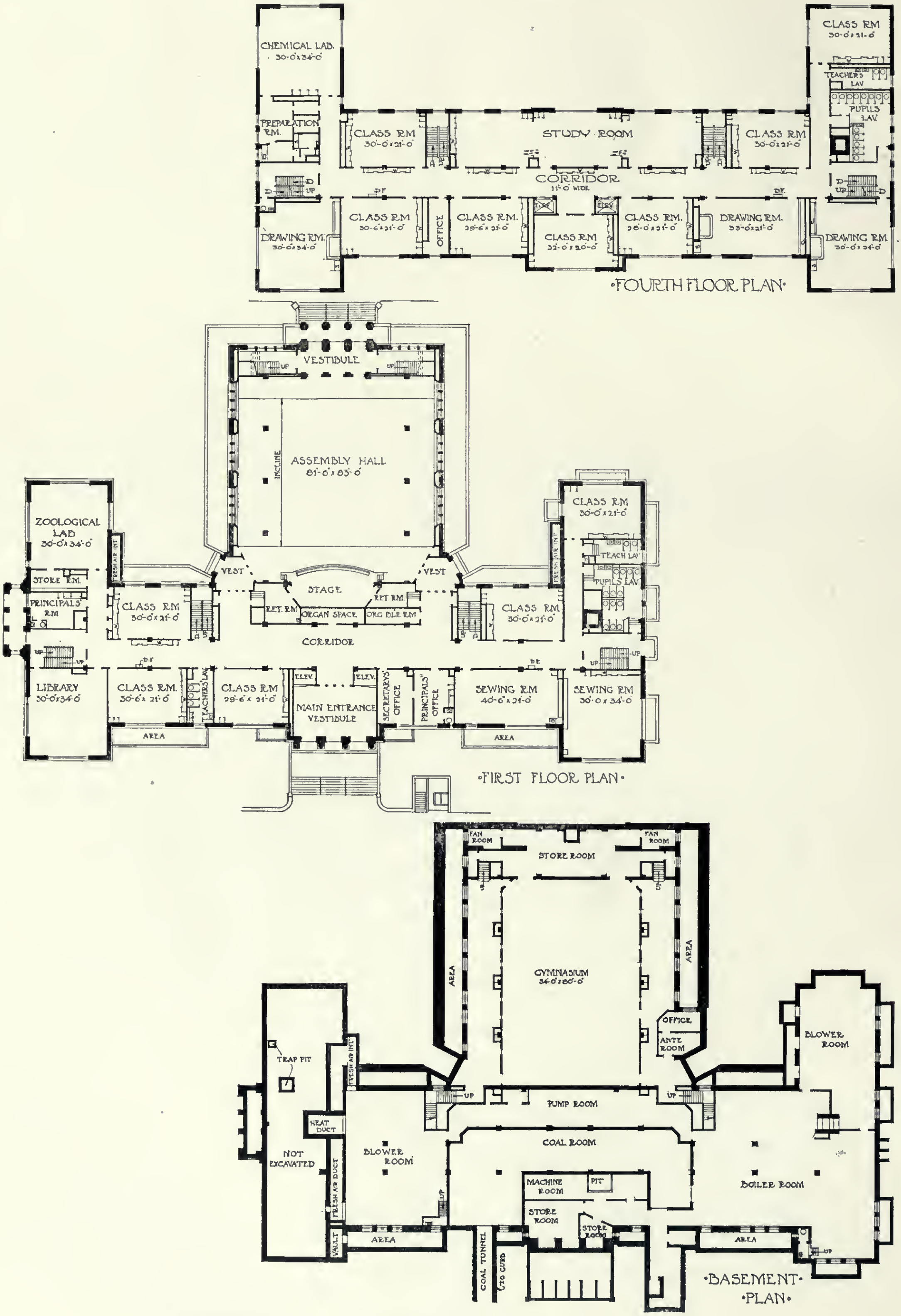
SECOND FLOOR PLAN, HIGH SCHOOL, SPRINGFIELD, ILL.



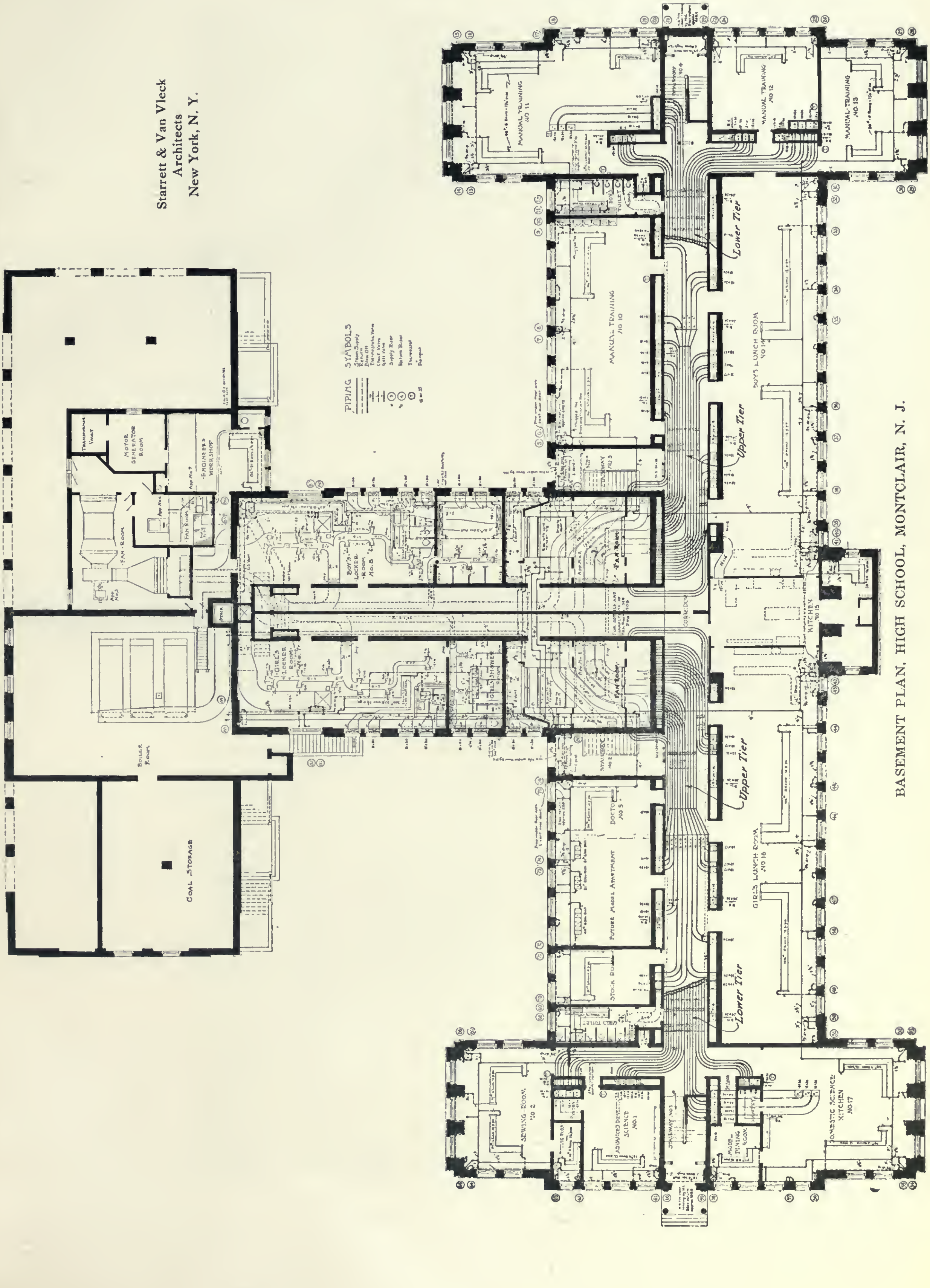
BAY RIDGE HIGH SCHOOL, NEW YORK, N. Y.
C. B. J. Snyder, Architect of the Board of Education.


FAN RM
FAN RM
PROMENADE
TEACHER'S LUNCH RM
PROMENADE
SERVICE LAV
LUNCH RM
LUNCH RM
ELEV
KITCHEN
RANGE
TABLE
PROMENADE
PROMENADE
·FIFTH FLOOR PLAN·
ROOF
VAULT LIGHT
VAULT LIGHT
ROOF
VAULT LIGHT
PHYSICAL LAB 30'-0"x34'-0"
ROOF
CLASS RM 30'-0"x21'-0"
TEACHER'S LAV
ROOF
PUPILS LAV
STORE RM
SICK RM
CLASS RM. 30'-0"x21'-0"
CLASS RM. 31'-6"x21'-0"
RETIRING ROOM
CLASS RM 31'-6"x21'-0"
CLASS RM. 30'-0"x21'-0"
CORRIDOR 11'-0" WIDE
CLASS RM 30'-6"x21'-0"
OFFICE
CLASS RM. 29'-6"x21'-0"
CLASS RM. 33'-0"x26'-0"
CLASS RM. 26'-0"x21'-0"
CLASS RM 35'-0"x21'-0"
LAUNDRY
STORE RM
LECTURE RM. 30'-0"x34'-0"
COOKING RM 30'-0"x34'-0"
·THIRD FLOOR PLAN·
ROOF
STORE BOX
ASSEMBLY HALL GALLERY
RAIL
RAIL
BOTANY LAB. 30'-0"x34'-0"
PREPARATION RM.
ROOF
CLASS RM. 30'-0"x21'-0"
SWELL BOX
ORGAN SPACE
SWELL BOX
STORE RM
STORE RM
STORE RM
CLASS RM. 30'-0"x21'-0"
COMMERCIAL RM 30'-0"x21'-0"
TEACHERS LAV.
PUPILS LAV.
CORRIDOR 11'-0" WIDE
MUSIC RM. 30'-0"x34'-0"
CLASS RM. 30'-6"x21'-0"
OFFICE
CLASS RM. 29'-6"x21'-0"
ELEV.
ELEV
TYPEWRITING RM 33'-0"x20'-0"
TYPEWRITING RM 26'-0"x21'-0"
COMMERCIAL RM. 40'-6"x21'-0"
COMMERCIAL RM 30'-0"x34'-0"
·SECOND FLOOR· ·PLAN·

FLOOR PLANS, BAY RIDGE HIGH SCHOOL, NEW YORK, N. Y.
C. B. J. Snyder, Architect, New York, N. Y.

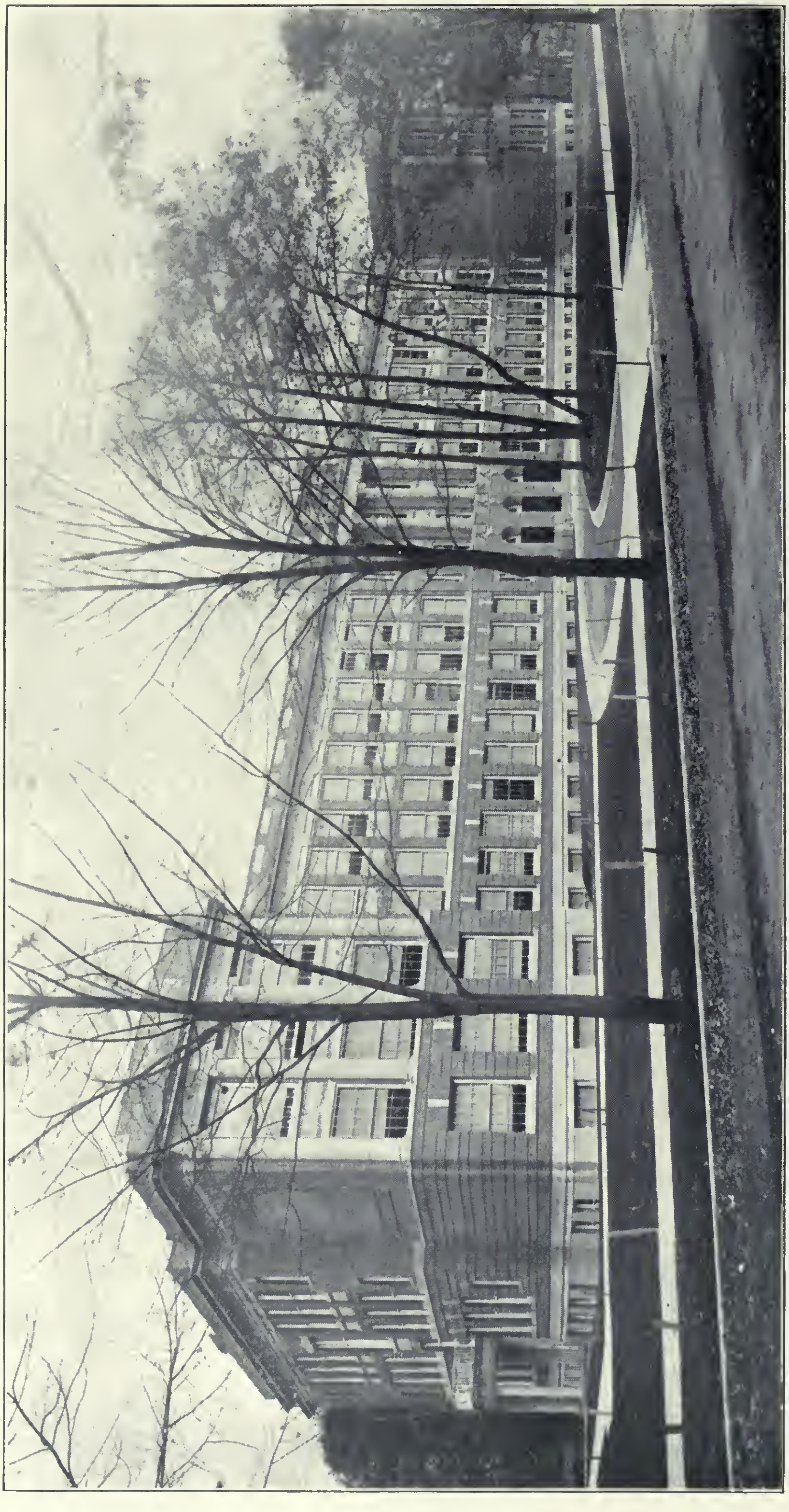

CHEMICAL LAB. 30-0x34-0
PREPARATION RM.
CLASS RM 30-0x21-0
STUDY ROOM
CLASS RM 30-0x21-0
CLASS RM 30-0x21-0
TEACHERS LAV
PUPILS LAV
CORRIDOR 11-0 WIDE
DRAWING RM. 30-0x34-0
CLASS RM 30-6x21-0
OFFICE
CLASS RM. 29-6x21-0
CLASS RM 32-0x20-0
CLASS RM. 26-0x21-0
DRAWING RM. 33-0x21-0
DRAWING RM. 30-0x34-0
•FOURTH FLOOR PLAN•
VESTIBULE
ASSEMBLY HALL 81-6x85-0
INCLINE
ZOOLOGICAL LAB 30-0x34-0
STORE RM.
PRINCIPALS' RM
FRESH AIR INT
CLASS RM 30-0x21-0
VEST
STAGE
RET. RM.
ORGAN SPACE
ORG BLR RM
RET RM.
VEST
CLASS RM 30-0x21-0
TEACH LAV
PUPILS LAV
CLASS RM 30-0x21-0
CORRIDOR
LIBRARY 30-0x34-0
CLASS RM. 30-6x21-0
TEACHERS' LAV
CLASS RM 29-6x21-0
ELEV.
ELEV.
MAIN ENTRANCE VESTIBULE
SECRETARY'S OFFICE
PRINCIPALS' OFFICE
SEWING RM 40-6x21-0
SEWING RM 30-0x34-0
AREA
AREA
•FIRST FLOOR PLAN•
FAN ROOM
STORE ROOM
FAN ROOM
AREA
GYMNASIUM 54-0x80-0
AREA
OFFICE
ANTE ROOM
TRAP PIT
FRESH AIR INT
HEAT DUCT
NOT EXCAVATED
BLOWER ROOM
FRESH AIR DUCT
PUMP ROOM
COAL ROOM
MACHINE ROOM
PIT
STORE ROOM
STORE ROOM
BLOWER ROOM
BOILER ROOM
VAULT
AREA
COAL TUNNEL
TO CURB
AREA
•BASEMENT• •PLAN•

FLOOR PLANS, BAY RIDGE HIGH SCHOOL, NEW YORK, N. Y.
C. B. J. Snyder, Architect, New York, N. Y.


PIPING SYMBOLS
MANUAL TRAINING NO 11
STAIRWAY NO 4
MANUAL TRAINING NO 12
MANUAL TRAINING NO 13
BOYS TOILET
Lower Tier
MANUAL TRAINING NO 10
BOYS LUNCH ROOM NO 14
Upper Tier
STAIRWAY NO 3
FAN ROOM
BOYS LOCKER ROOM NO 8
CORRIDOR
KITCHEN NO 15
GIRLS LOCKER ROOM NO 6
GIRLS SHOWER
FAN ROOM
STAIRWAY NO 2
Upper Tier
DOCTOR NO 5
FUTURE MODEL APARTMENT
GIRLS LUNCH ROOM NO 16
STOCK ROOM
Lower Tier
GIRLS TOILET
SEWING ROOM NO 2
ADVANCED DOMESTIC SCIENCE NO 1
STAIRWAY NO 1
MODEL DINING ROOM
PANTRY
DOMESTIC SCIENCE KITCHEN NO 17
TRANSFORMER VAULT
MOTOR GENERATOR ROOM
ENGINEERS WORKSHOP
FAN ROOM
FAN ROOM
BOILER ROOM
COAL STORAGE

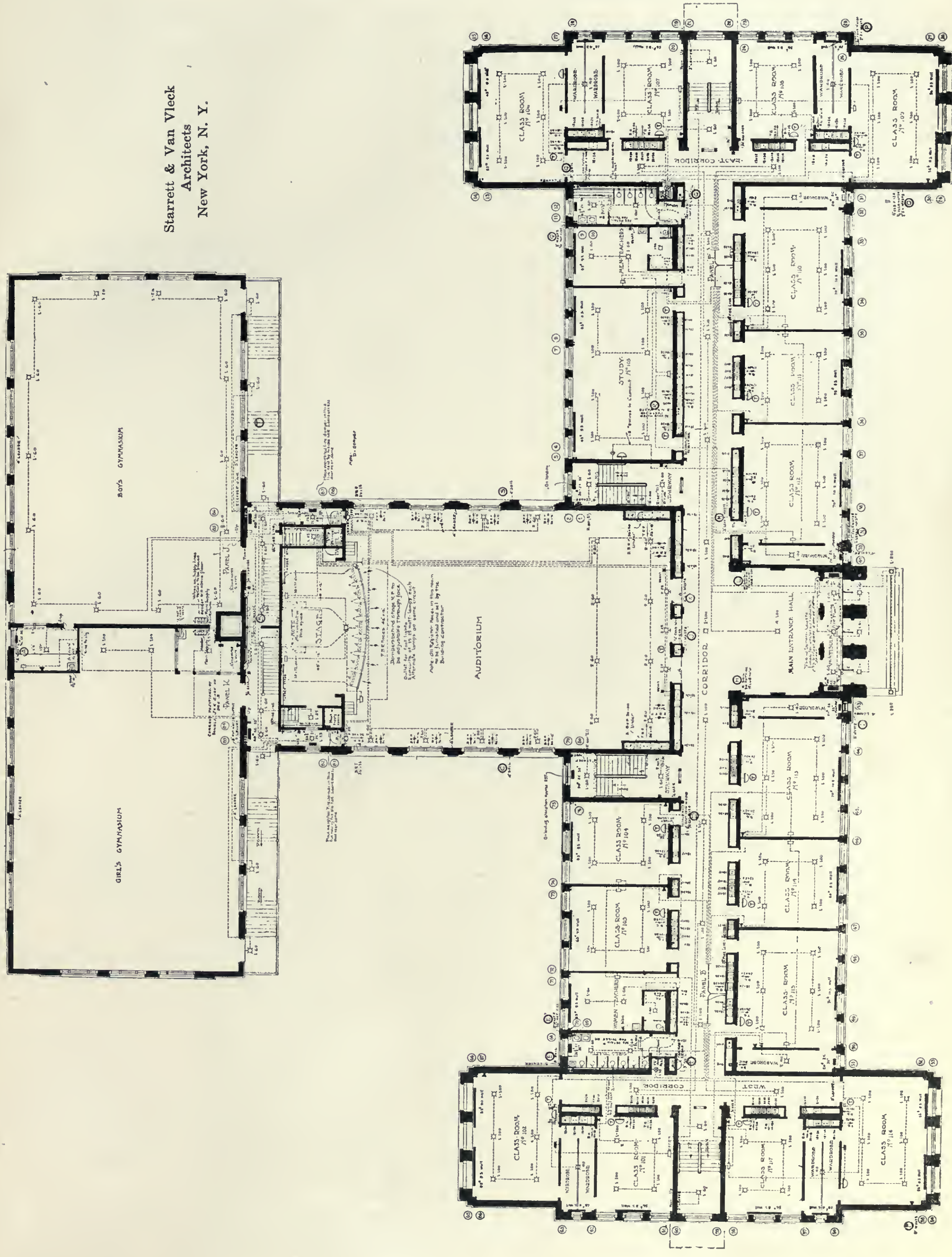
Starrett & Van Vleck
Architects
New York, N. Y.

BASEMENT PLAN, HIGH SCHOOL, MONTCLAIR, N. J.

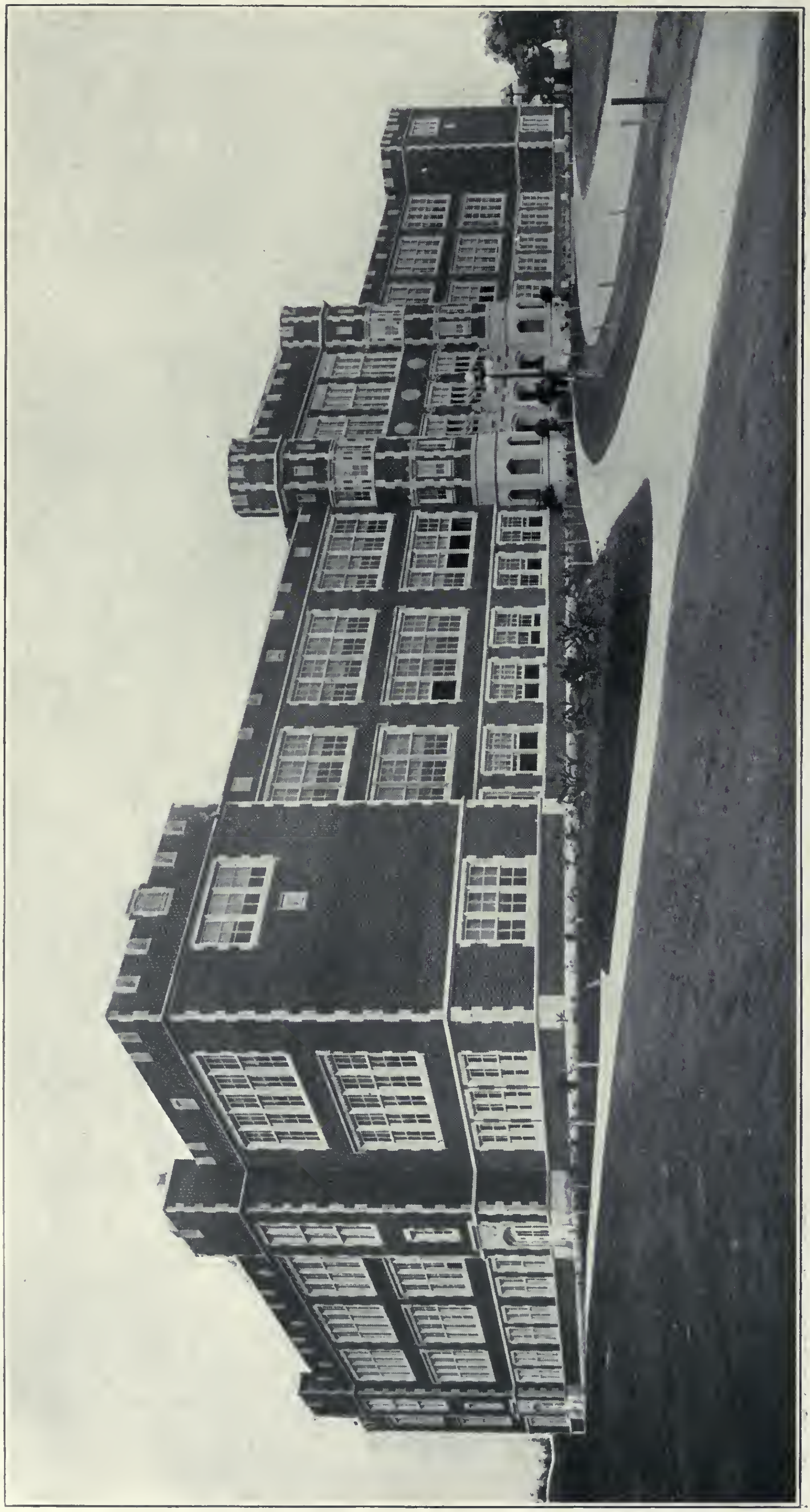


THE MONTCLAIR HIGH SCHOOL, MONTCLAIR, N. J.
Starrett & Van Vleck, Architects, New York, N. Y.

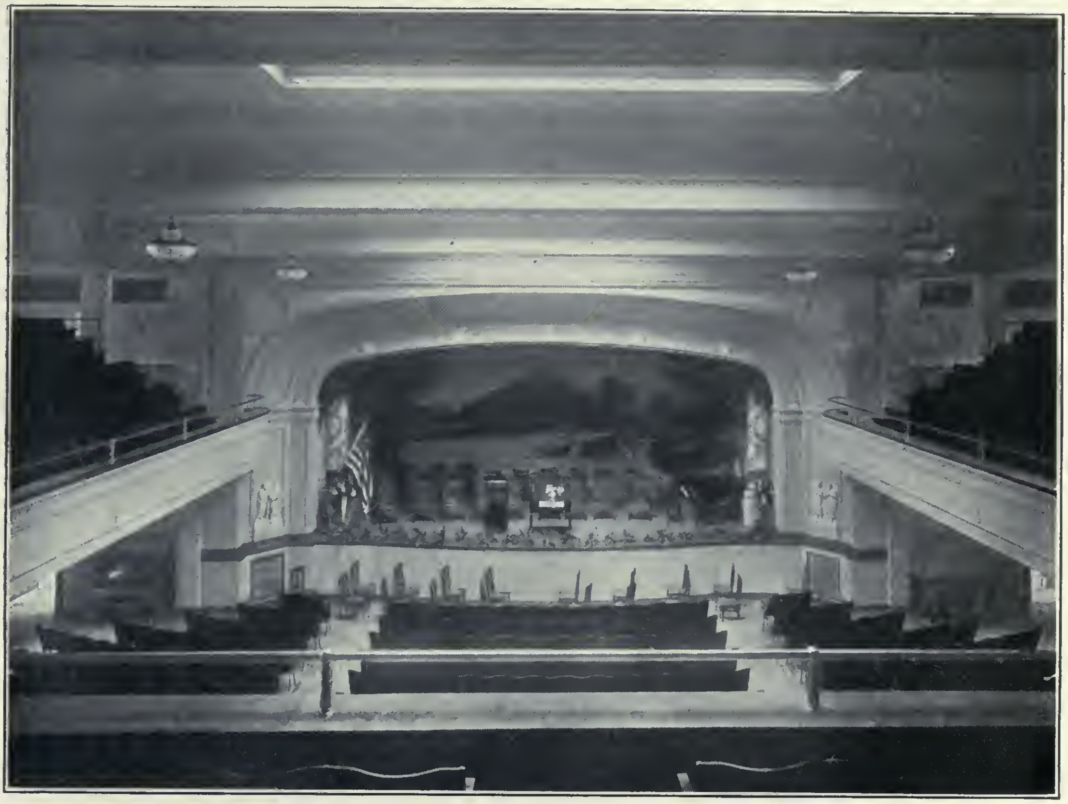
Starrett & Van Vleck
Architects
New York, N. Y.


BOY'S GYMNASIUM
GIRL'S GYMNASIUM
PANEL J
PANEL K
STAGE
AUDITORIUM
CORRIDOR
MAIN ENTRANCE HALL
VESTIBULE
STUDY No 103
MEN TEACHERS
WOMEN TEACHERS
STAIRWAY
PANEL E
PANEL D
EAST CORRIDOR
WEST CORRIDOR
CLASS ROOM No 100
CLASS ROOM No 101
CLASS ROOM No 102
CLASS ROOM No 104
CLASS ROOM No 105
CLASS ROOM No 106
CLASS ROOM No 107
CLASS ROOM No 108
CLASS ROOM No 109
CLASS ROOM No 110
CLASS ROOM No 111
CLASS ROOM No 112
CLASS ROOM No 113
CLASS ROOM No 114
CLASS ROOM No 115
CLASS ROOM No 116
CLASS ROOM No 117
WARDROBE

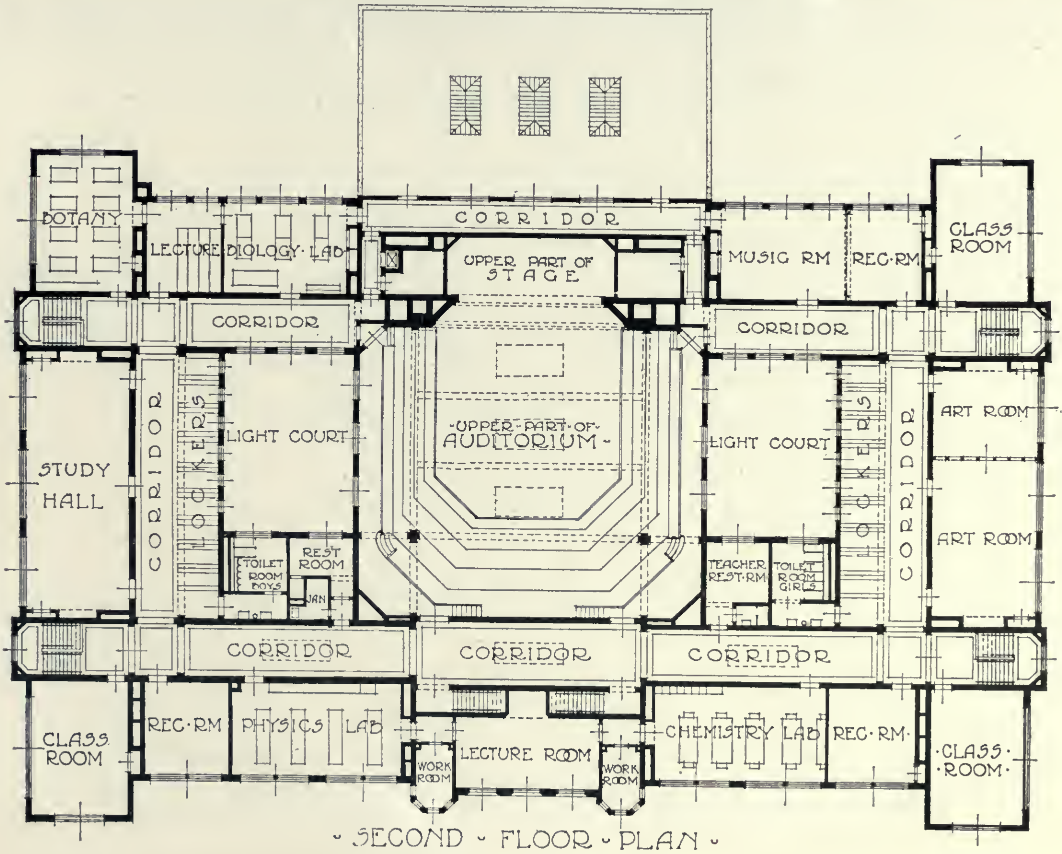
FIRST FLOOR PLAN, MONTCLAIR HIGH SCHOOL, MONTCLAIR, N. J.



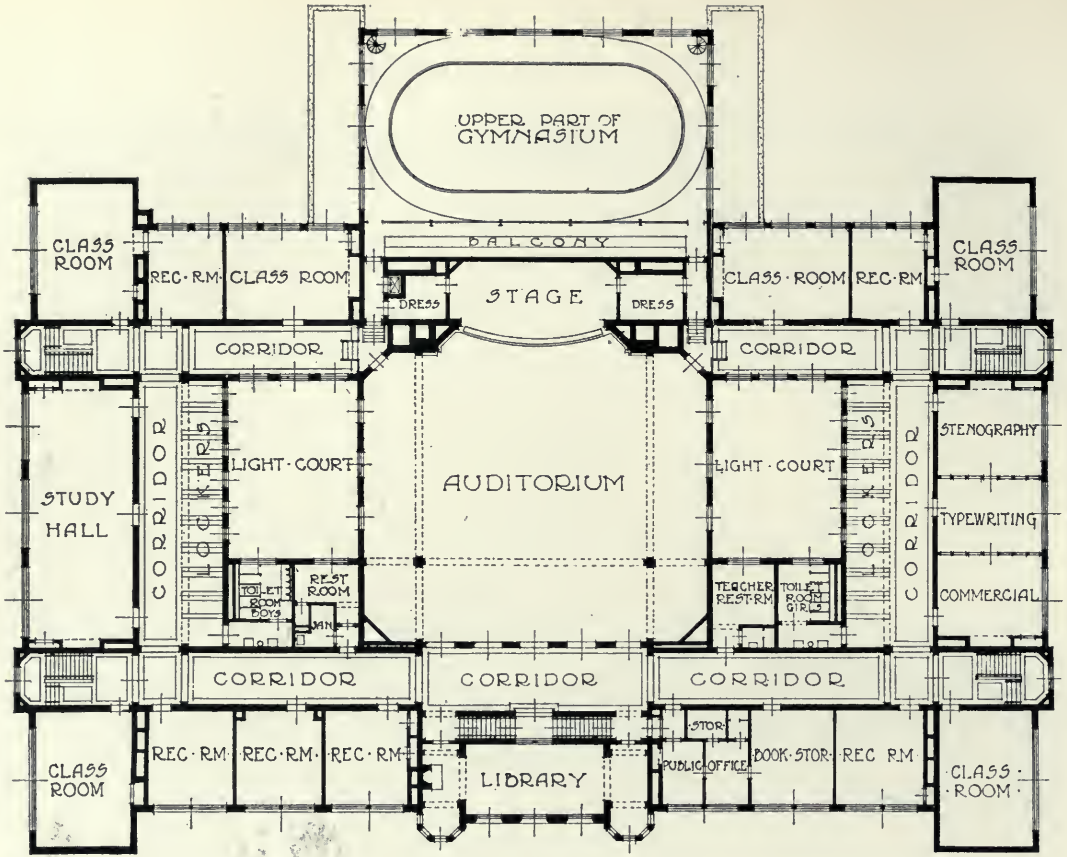
PARKERSBURG HIGH SCHOOL, PARKERSBURG, W. VA.
Frank L. Packard, Architect, Columbus, O.



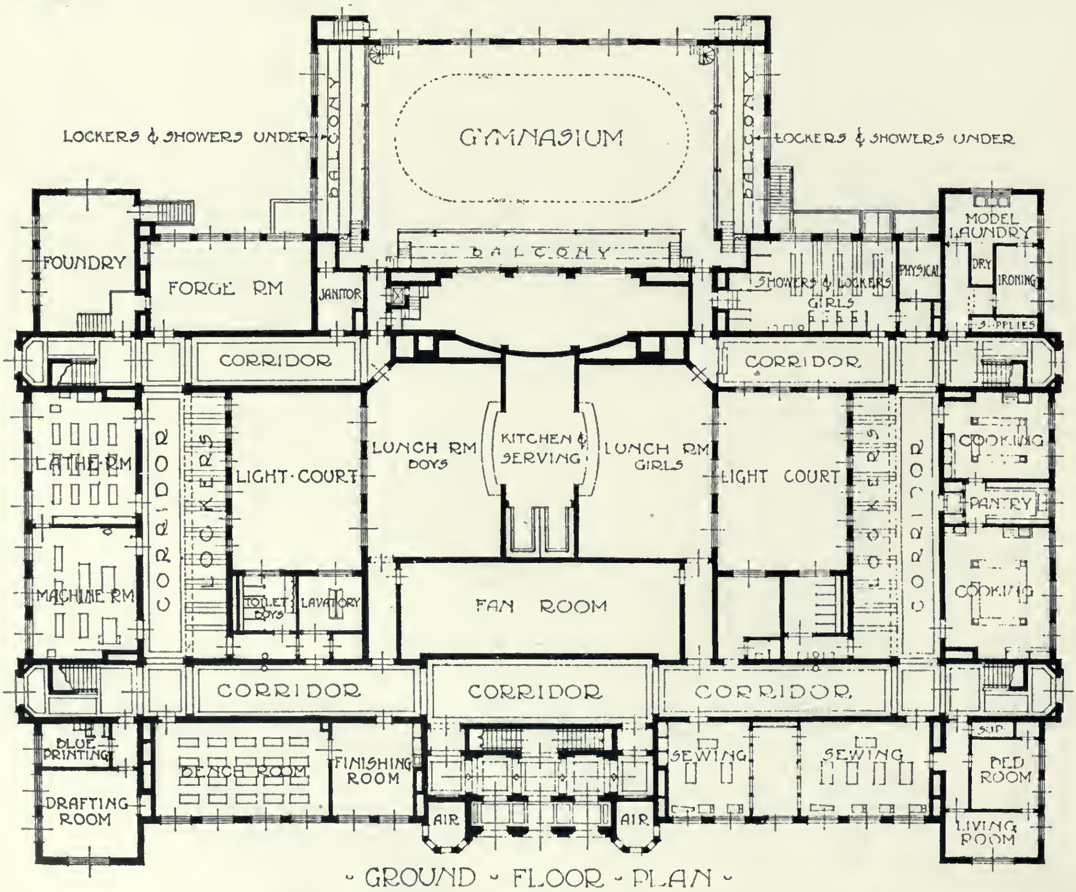
AUDITORIUM, PARKERSBURG HIGH SCHOOL, PARKERSBURG, W. VA.


BOTANY
LECTURE
BIOLOGY·LAB
CORRIDOR
UPPER PART OF STAGE
MUSIC RM
REC·RM
CLASS ROOM
CORRIDOR
CORRIDOR
CORRIDOR
LOCKERS
LIGHT COURT
·UPPER·PART·OF· AUDITORIUM·
LIGHT COURT
LOCKERS
CORRIDOR
STUDY HALL
ART ROOM
ART ROOM
TOILET ROOM BOYS
REST ROOM
JAN
TEACHER REST·RM
TOILET ROOM GIRLS
CORRIDOR
CORRIDOR
CORRIDOR
CLASS ROOM
REC·RM
PHYSICS LAB
WORK ROOM
LECTURE ROOM
WORK ROOM
CHEMISTRY LAB
REC·RM·
·CLASS· ROOM·

· SECOND · FLOOR · PLAN ·

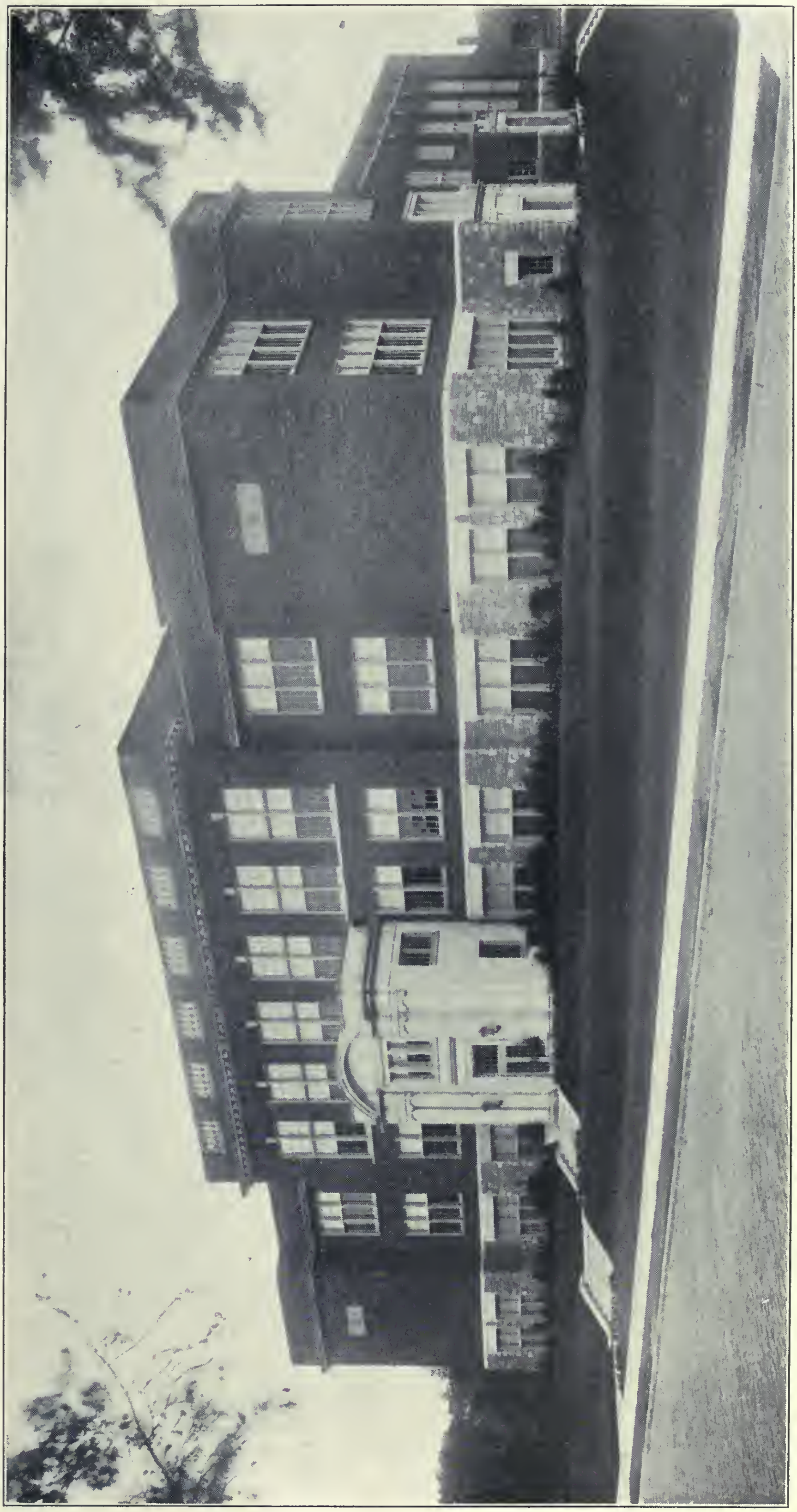

UPPER PART OF GYMNASIUM
BALCONY
STAGE
DRESS
DRESS
CLASS ROOM
REC·RM·
CLASS ROOM
CLASS·ROOM
REC·RM
CLASS ROOM
CORRIDOR
CORRIDOR
STUDY HALL
CORRIDOR
LOCKERS
LIGHT·COURT
AUDITORIUM
LIGHT·COURT
LOCKERS
CORRIDOR
STENOGRAPHY
TYPEWRITING
COMMERCIAL
TOILET ROOM BOYS
REST ROOM
JAN
TEACHER REST·RM
TOILET ROOM GIRLS
CORRIDOR
CORRIDOR
CORRIDOR
CLASS ROOM
REC·RM
REC·RM
REC·RM
LIBRARY
STOR
PUBLIC OFFICE
BOOK·STOR
REC RM
CLASS·ROOM

· FIRST · FLOOR · PLAN ·

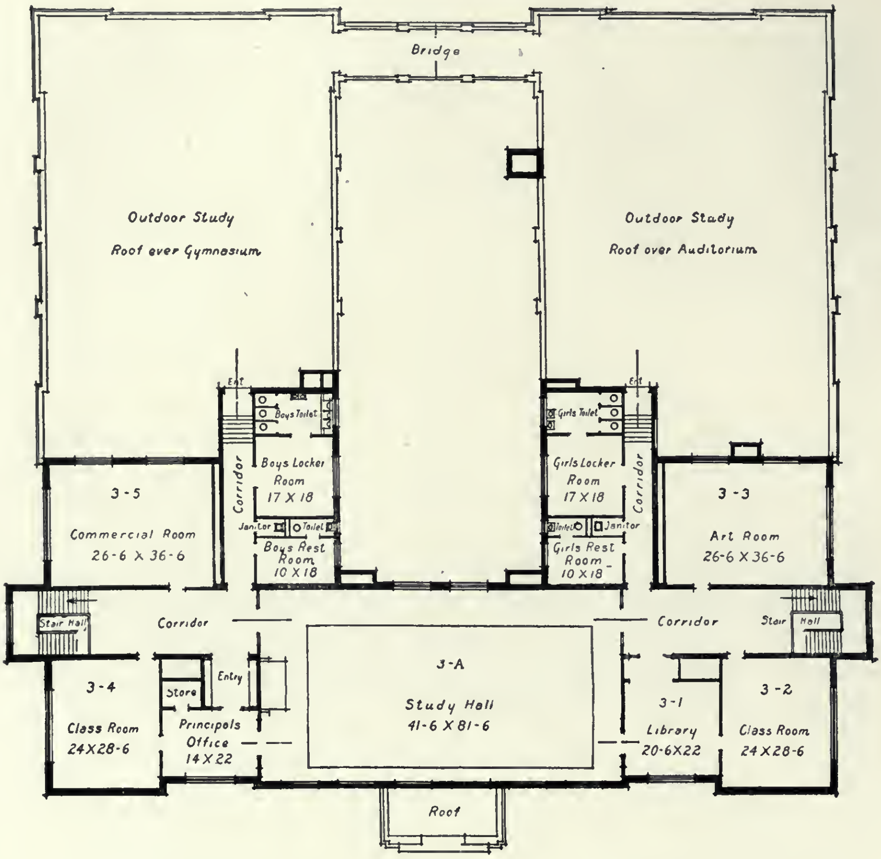

GYMNASIUM
LOCKERS & SHOWERS UNDER
BALCONY
BALCONY
LOCKERS & SHOWERS UNDER
BALCONY
FOUNDRY
FORGE RM
JANITOR
SHOWERS & LOCKERS GIRLS
PHYSICAL
MODEL LAUNDRY
DRY
IRONING
SUPPLIES
CORRIDOR
CORRIDOR
LATHE RM
CORRIDOR
LOCKERS
LIGHT·COURT
LUNCH RM BOYS
KITCHEN & SERVING
LUNCH RM GIRLS
LIGHT COURT
LOCKERS
CORRIDOR
COOKING
PANTRY
MACHINE RM
TOILET BOYS
LAVATORY
FAN ROOM
COOKING
CORRIDOR
CORRIDOR
CORRIDOR
BLUE PRINTING
DRAFTING ROOM
BENCH ROOM
FINISHING ROOM
AIR
AIR
SEWING
SEWING
SUP.
BED ROOM
LIVING ROOM

· GROUND · FLOOR · PLAN ·

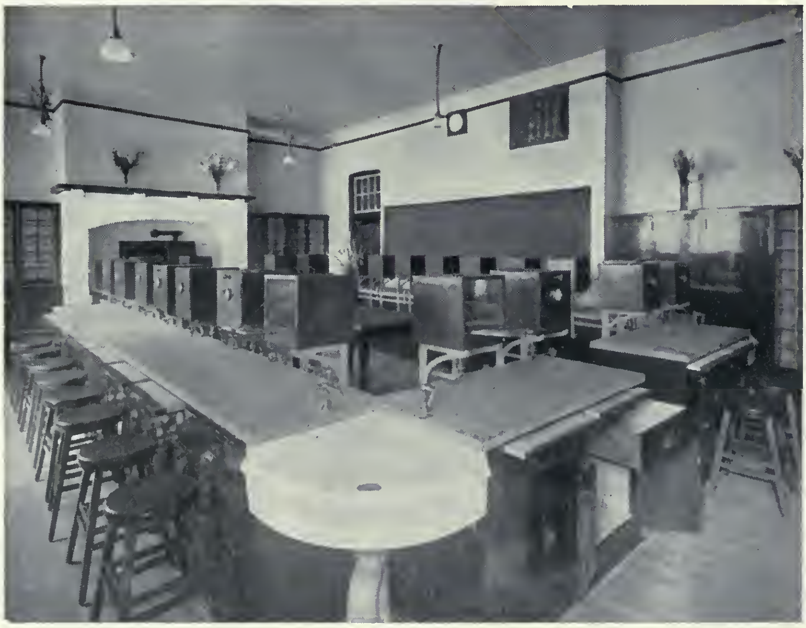
FLOOR PLANS, PARKERSBURG HIGH SCHOOL, PARKERSBURG, W. VA.



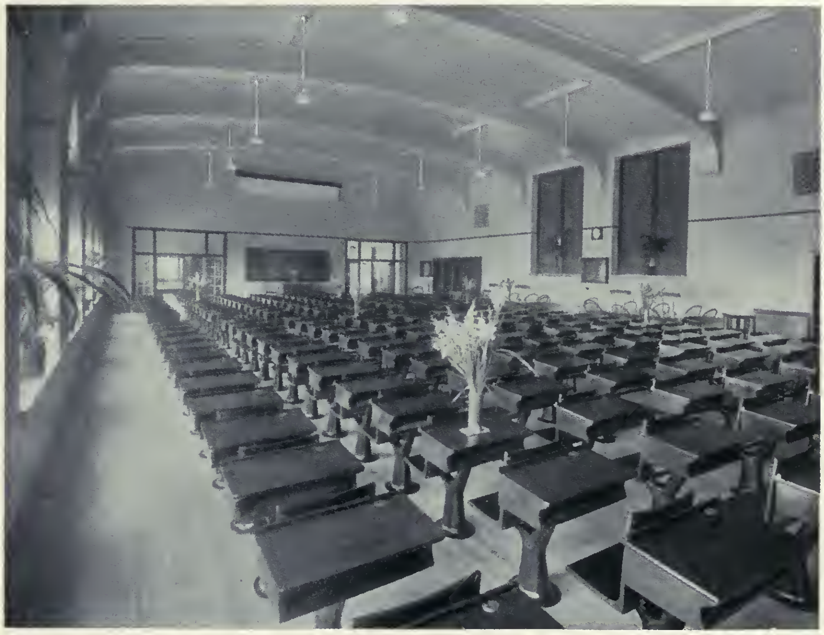
McCLAIN HIGH SCHOOL, GREENFIELD, O.
Wm. B. Ittner, Architect, St. Louis, Mo.


Bridge
Outdoor Study
Roof over Gymnasium
Outdoor Study
Roof over Auditorium
Ent
Boys Toilet
Boys Locker Room 17 X 18
Janitor
Toilet
Boys Rest Room 10 X 18
Corridor
Ent
Girls Toilet
Girls Locker Room 17 X 18
Toilet
Janitor
Girls Rest Room 10 X 18
Corridor
3 - 5
Commercial Room 26-6 X 36-6
3 - 3
Art Room 26-6 X 36-6
Stair Hall
Corridor
Corridor
Stair Hall
3 - 4
Class Room 24X28-6
Store
Entry
Principals Office 14 X 22
3 - A
Study Hall 41-6 X 81-6
3 - 1
Library 20-6X22
3 - 2
Class Room 24X28-6
Roof

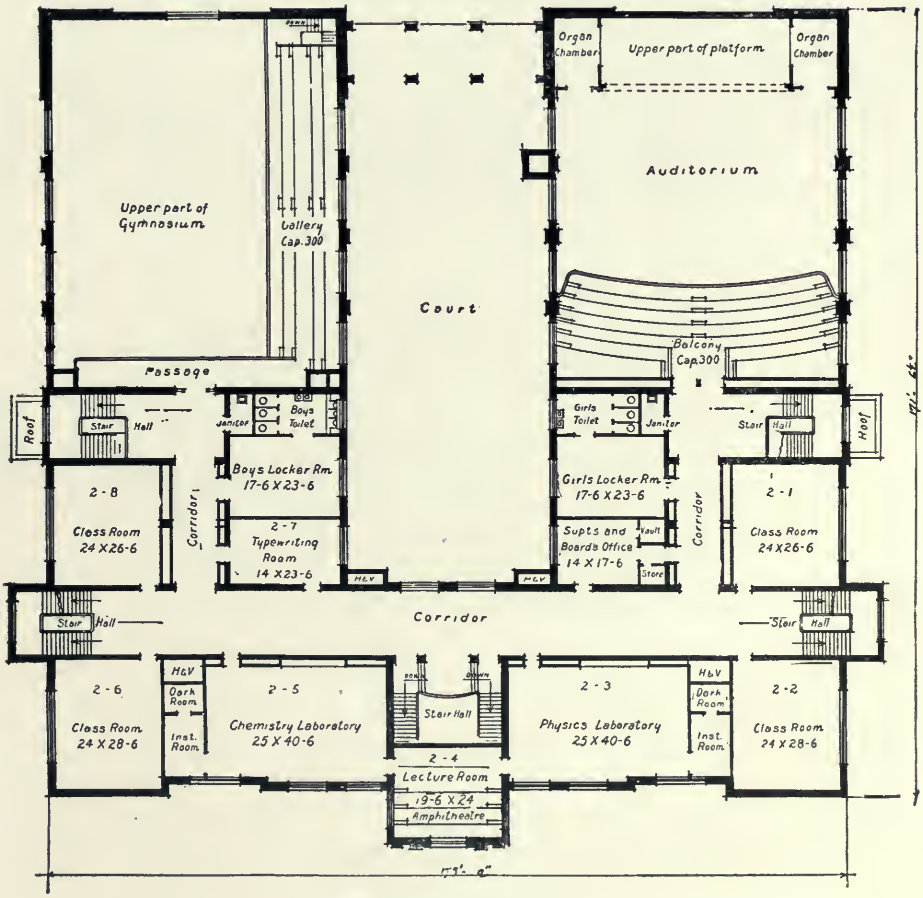
·THIRD · FLOOR · PLAN·



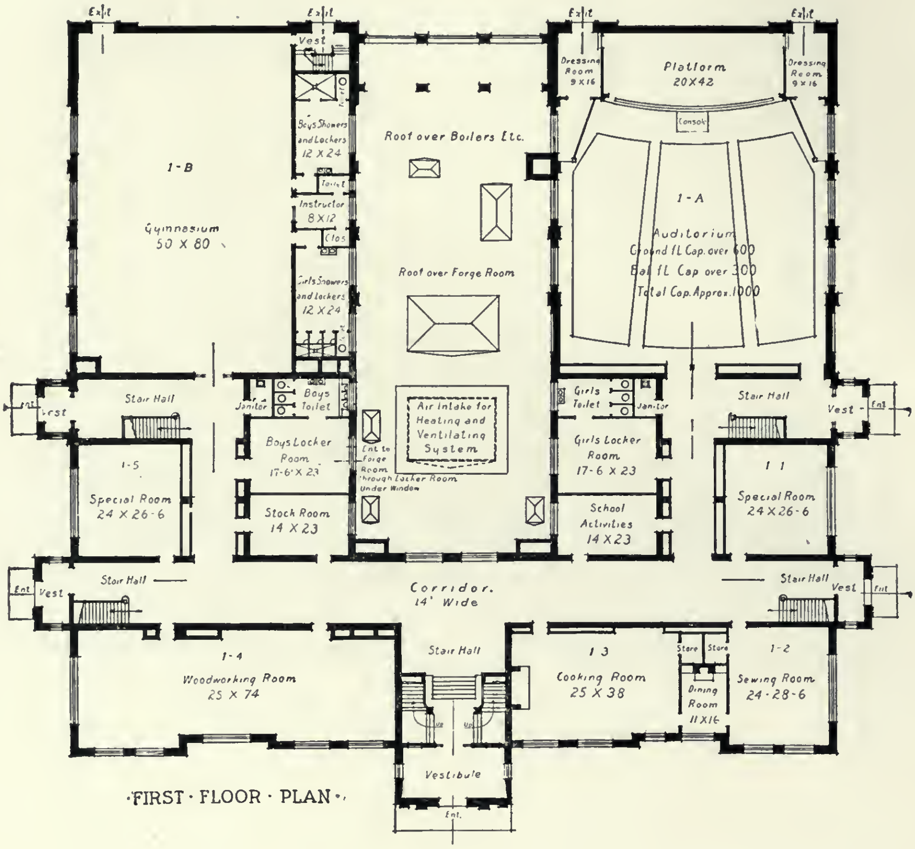
COOKING ROOM, McCLAIN HIGH SCHOOL, GREENFIELD, O.

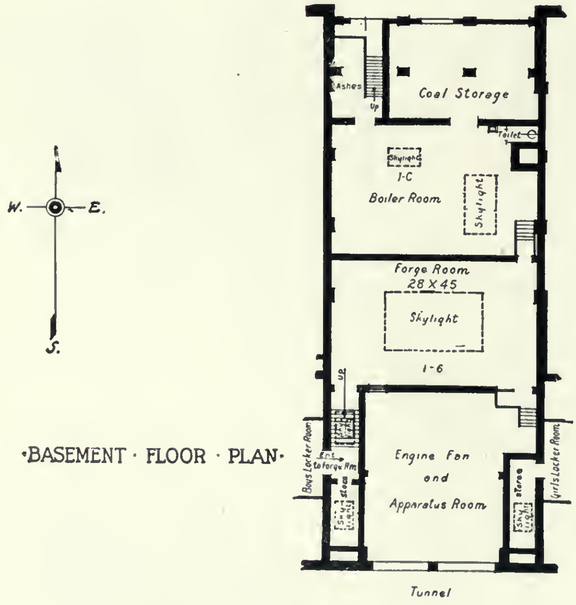


ASSEMBLY HALL, McCLAIN HIGH SCHOOL, GREENFIELD, O.


Organ Chamber
Upper part of platform
Organ Chamber
Auditorium
Upper part of Gymnasium
Gallery Cap. 300
Court
Balcony Cap. 300
Passage
Roof
Stair
Hall
Janitor
Boys Toilet
Girls Toilet
Janitor
Stair Hall
Roof
Boys Locker Rm. 17-6 X 23-6
Girls Locker Rm. 17-6 X 23-6
2-8
Class Room 24 X 26-6
Corridor
2-7
Typewriting Room 14 X 23-6
Supts and Boards Office 14 X 17-6
Vault
Store
Corridor
2-1
Class Room 24 X 26-6
H&V
H&V
Stair Hall
Corridor
Stair Hall
2-6
Class Room 24 X 28-6
H&V
Dark Room
Inst. Room
2-5
Chemistry Laboratory 25 X 40-6
Down
Down
Stair Hall
2-3
Physics Laboratory 25 X 40-6
H&V
Dark Room
Inst. Room
2-2
Class Room 24 X 28-6
2-4
Lecture Room
19-6 X 24
Amphitheatre

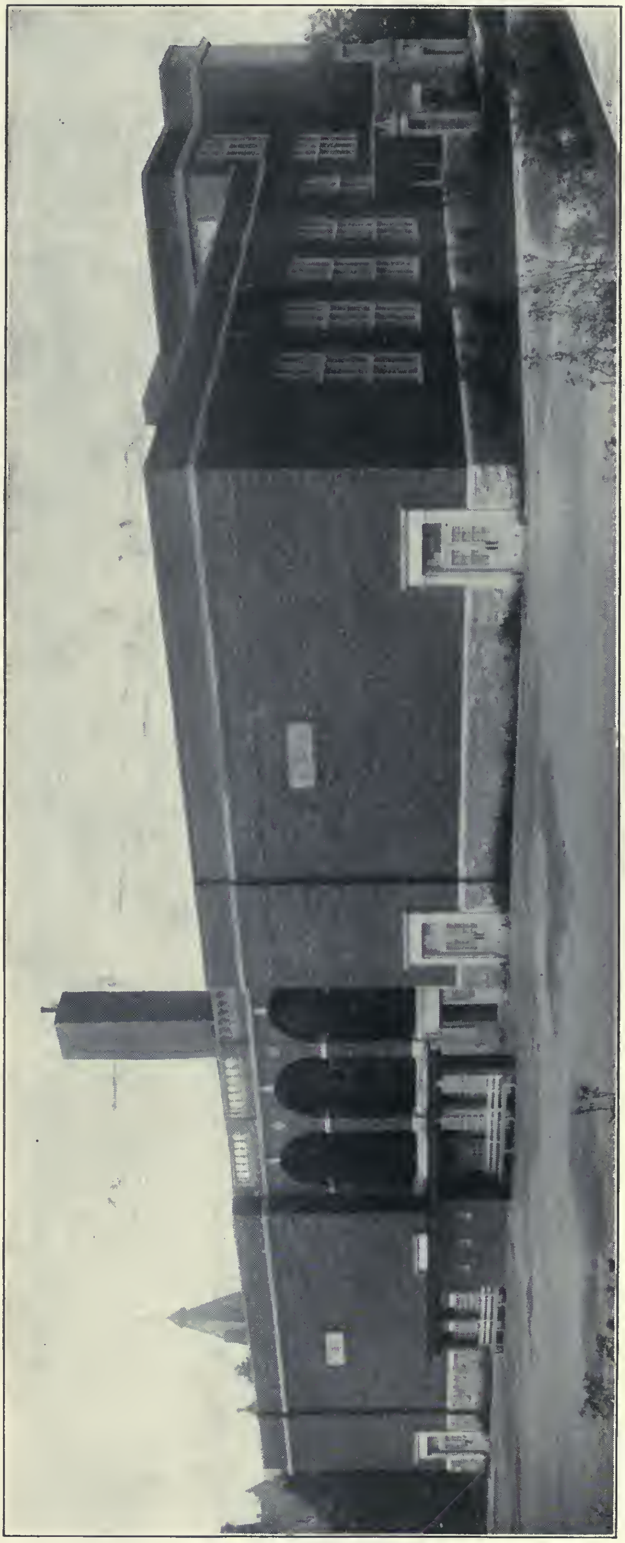
·SECOND·FLOOR·PLAN·


Exit
Exit
Exit
Exit
Vest
Boys Showers and Lockers 12 X 24
Toilet
Instructor 8 X 12
Clos
Girls Showers and Lockers 12 X 24
1-B
Gymnasium 50 X 80
Root over Boilers Etc.
Roof over Forge Room
Air Intake for Heating and Ventilating System
Ent. to Forge Room through Locker Room Under Window
Dressing Room 9 X 16
Platform 20 X 42
Dressing Room 9 X 16
Console
1-A
Auditorium
Ground fl. Cap. over 600
Bal. fl. Cap. over 300
Total Cap. Approx. 1000
Ent
Vest
Stair Hall
Janitor
Boys Toilet
Boys Locker Room 17-6 X 23
Stock Room 14 X 23
Girls Toilet
Janitor
Girls Locker Room 17-6 X 23
School Activities 14 X 23
Stair Hall
Vest
Ent
1-5
Special Room 24 X 26-6
1 1
Special Room 24 X 26-6
Ent
Vest
Stair Hall
Corridor. 14' Wide
Stair Hall
Vest
Ent
1-4
Woodworking Room 25 X 74
Stair Hall
Up
Up
Vestibule
Ent.
1 3
Cooking Room 25 X 38
Store
Store
Dining Room 11 X 16
1-2
Sewing Room 24-28-6
·FIRST · FLOOR · PLAN·


Ashes
Up
Coal Storage
Toilet
Skylight
1-C
Boiler Room
Skylight
Forge Room 28 X 45
Skylight
1-6
Up
Boys Locker Room
Ent. to Forge Rm
Store
Skylight
Engine Fan and Apparatus Room
Store
Skylight
Girls Locker Room
Tunnel
W.
E.
S.
·BASEMENT · FLOOR · PLAN·

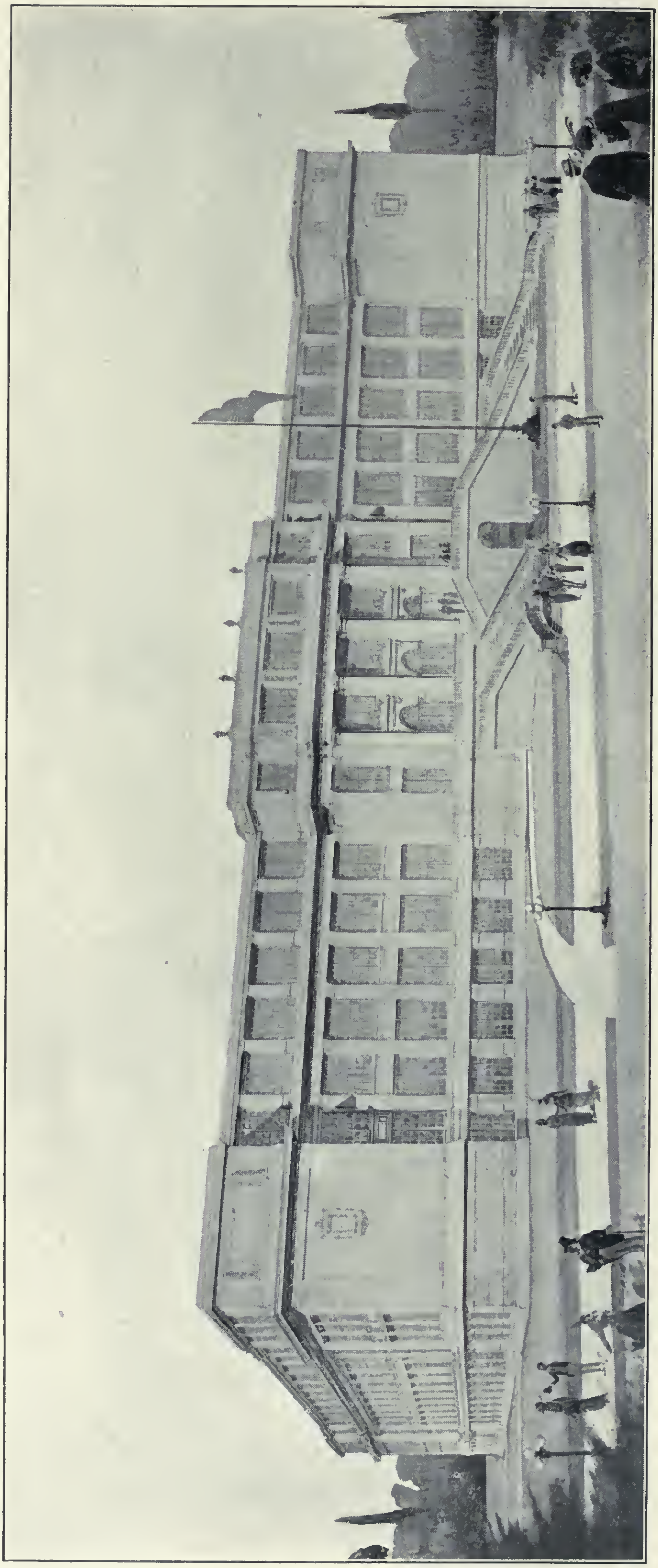
FLOOR PLANS, McCLAIN HIGH SCHOOL, GREENFIELD, O.

Wm. B. Ittner, Architect, St. Louis Mo.



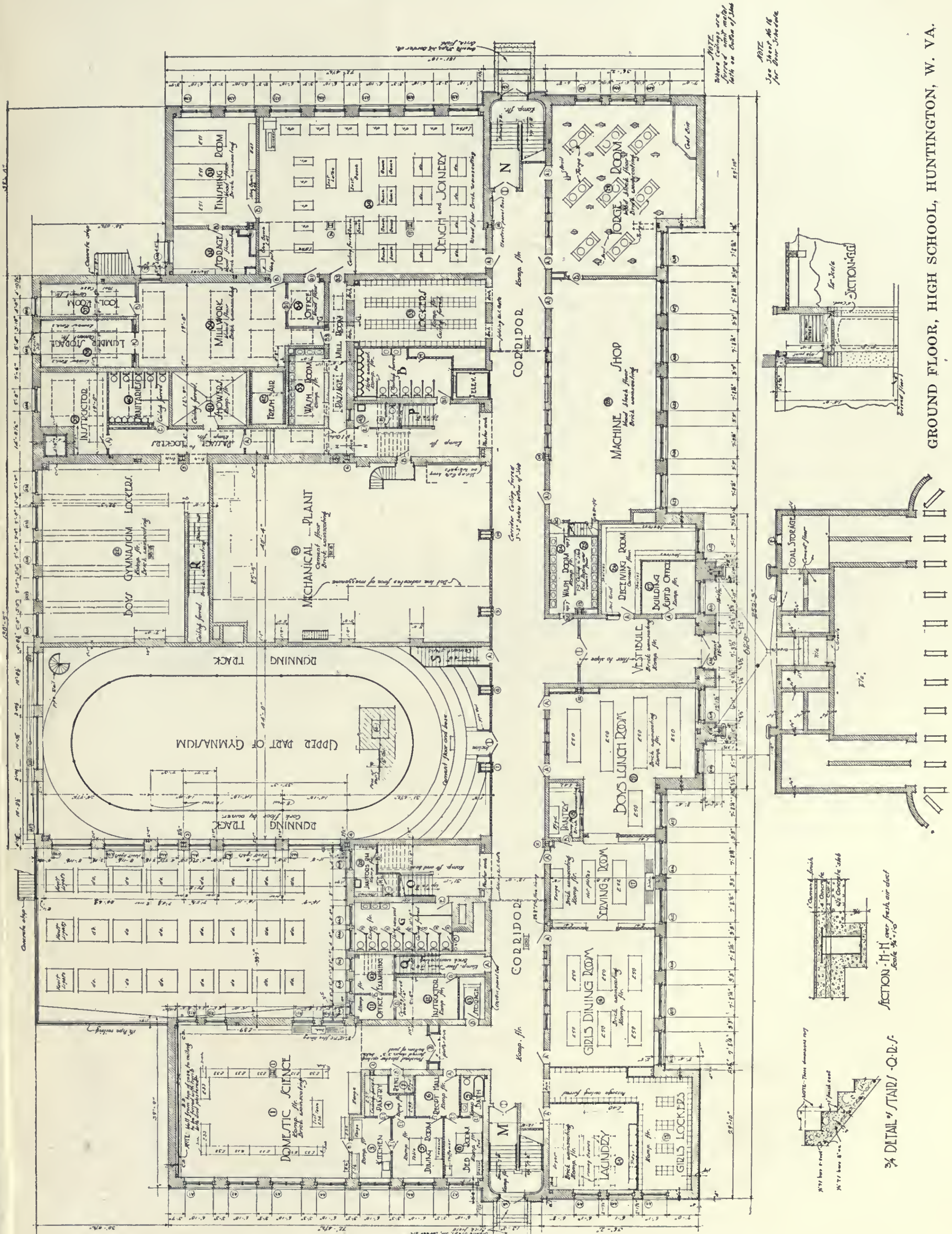
VIEW FROM PLAYGROUND, McCLAIN HIGH SCHOOL, GREENFIELD, O.

Wm. B. Ittner, Architect, St. Louis, Mo.

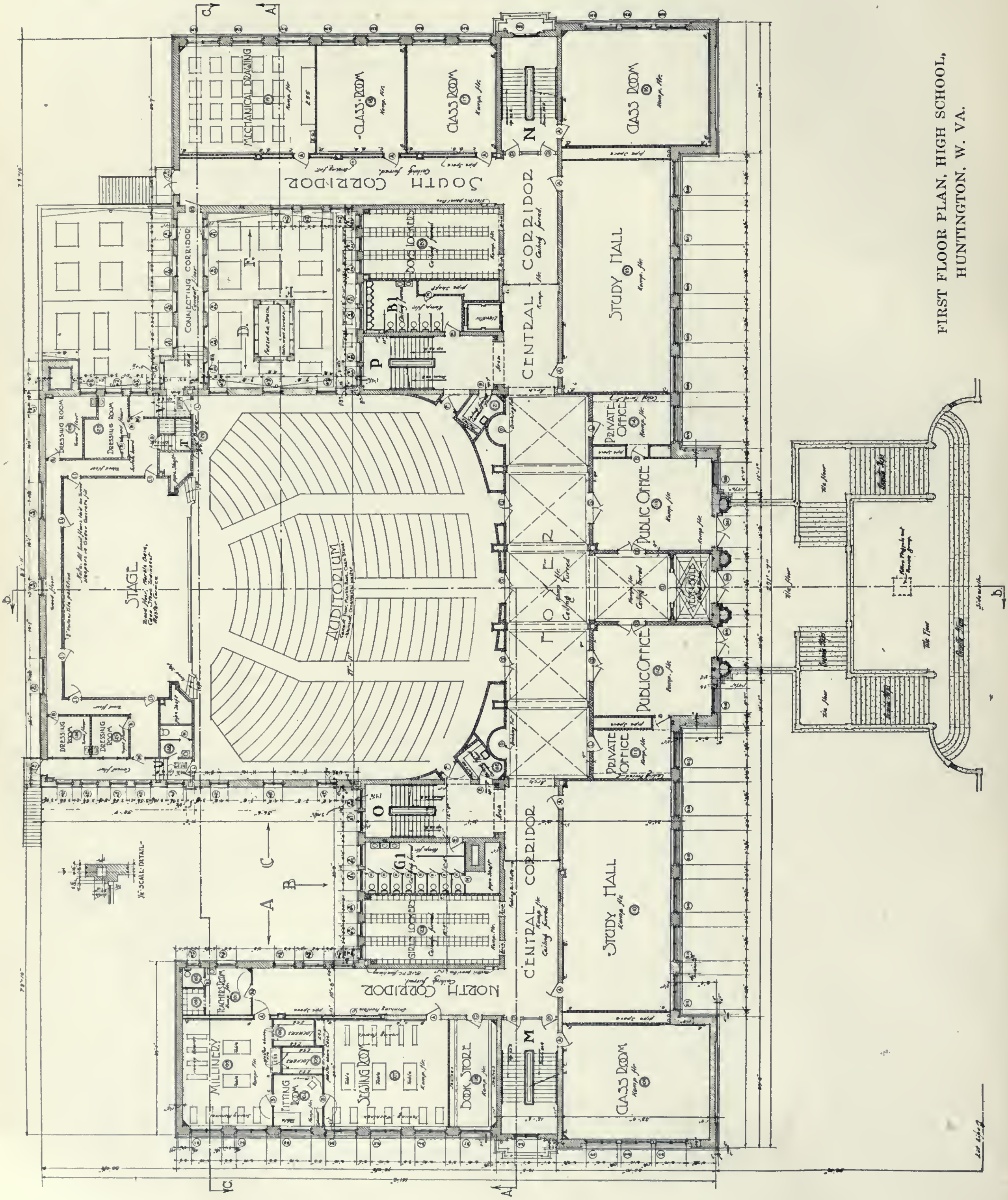


ARCHITECT'S PERSPECTIVE, HIGH SCHOOL, HUNTINGTON, W. VA.

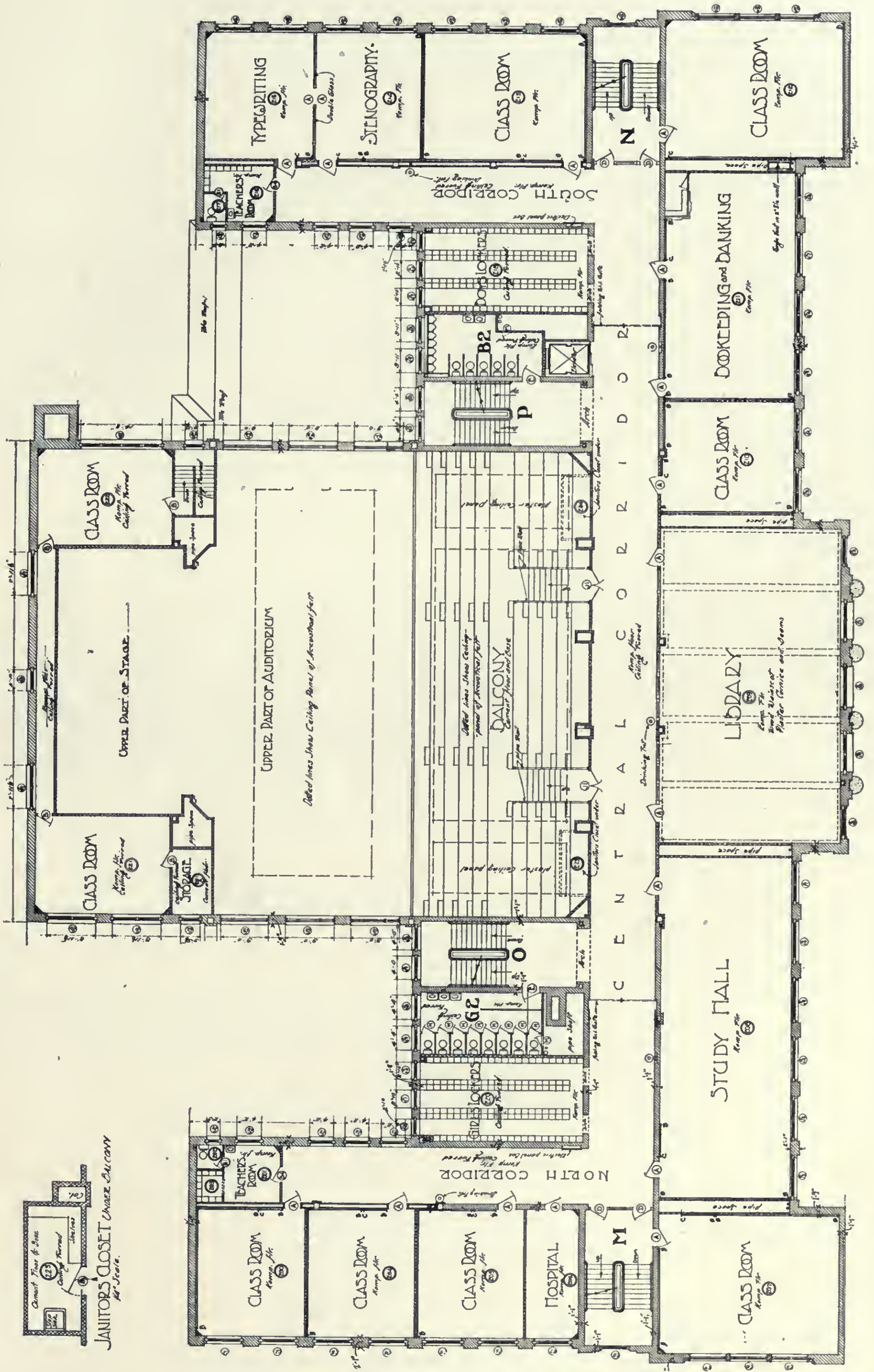
Verus T. Ritter, Architect, Huntington, W. Va.


FINISHING ROOM
BENCH and JOINERY
FORGE ROOM
STORAGE
TOOL ROOM
LUMBER STORAGE
MILLWORK
OFFICE
LOCKERS
INSTRUCTOR
SANITARIES
SHOWERS
FRESH AIR
WASH ROOM
PASSAGE
CORRIDOR
MACHINE SHOP
BOYS GYMNASIUM LOCKERS
MECHANICAL PLANT
RECEIVING ROOM
BUILDING AUDIT OFFICE
VESTIBULE
RUNNING TRACK
UPPER PART OF GYMNASIUM
BOYS LUNCH ROOM
PANTRY
SERVING ROOM
GIRLS DINING ROOM
OFFICE
EXAMINING
STORAGE
DOMESTIC SCIENCE
KITCHEN
DINING ROOM
RECEPT HALL
BED ROOM
BATH
LAUNDRY
GIRLS LOCKERS
COAL STORAGE
SECTION "G-G"
SECTION "H-H"
3/4 DETAIL of STAIRS -Q.D.S.
N
M

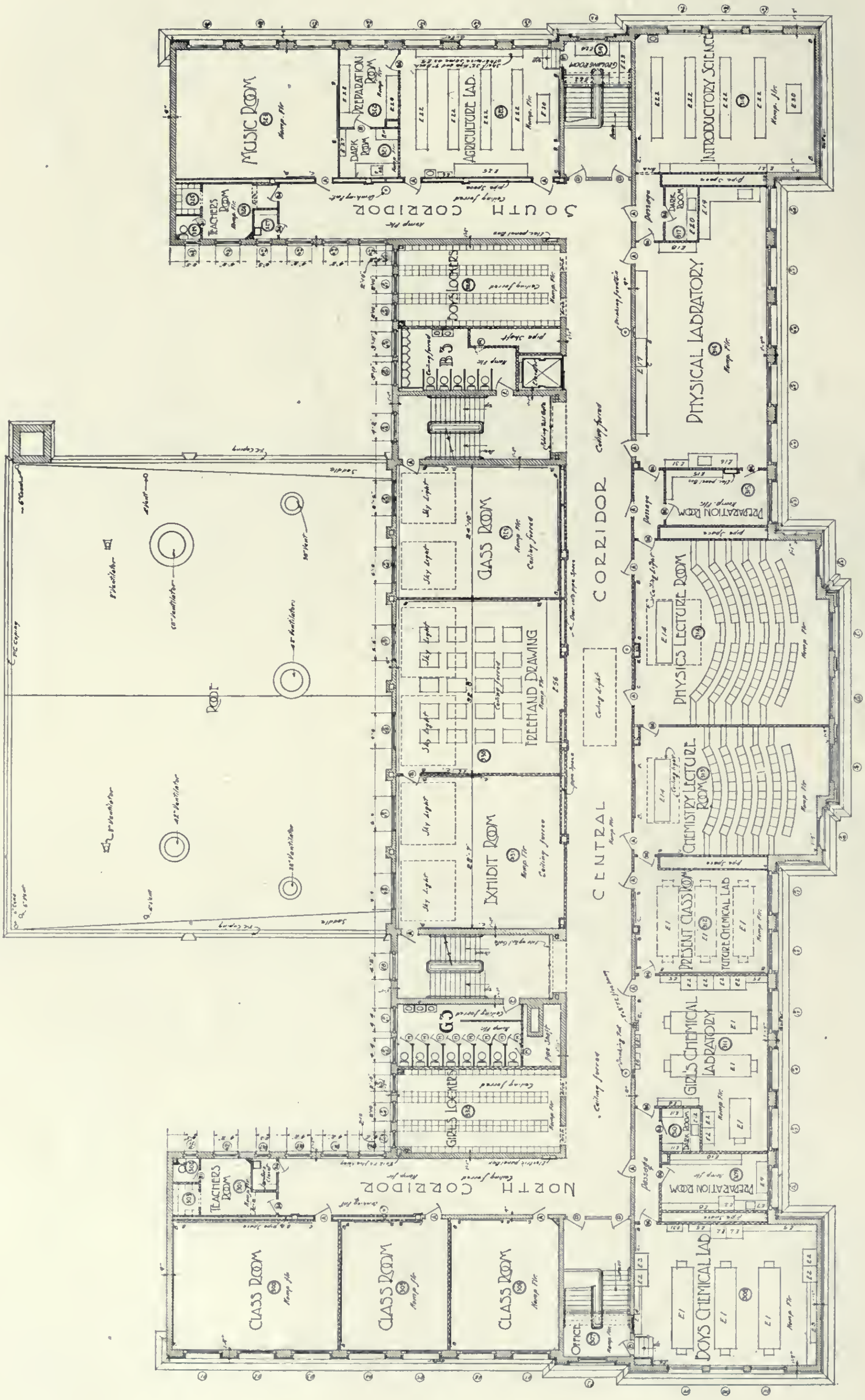
GROUND FLOOR, HIGH SCHOOL, HUNTINGTON, W. VA.


MECHANICAL DRAWING
CLASS ROOM
CLASS ROOM
CLASS ROOM
N
SOUTH CORRIDOR
CENTRAL CORRIDOR
STUDY HALL
BOYS LOCKERS
B1
P
CONNECTING CORRIDOR
D
E
DRESSING ROOM
DRESSING ROOM
STAGE
AUDITORIUM
DRESSING ROOM
DRESSING ROOM
FOYER
PRIVATE OFFICE
PUBLIC OFFICE
VESTIBULE
PUBLIC OFFICE
PRIVATE OFFICE
O
CENTRAL CORRIDOR
STUDY HALL
GIRLS LOCKERS
G1
A
B
C
3/4" SCALE DETAIL
NORTH CORRIDOR
TEACHERS ROOM
MILLINERY
FITTING ROOM
SEWING ROOM
BOOK STORE
M
CLASS ROOM

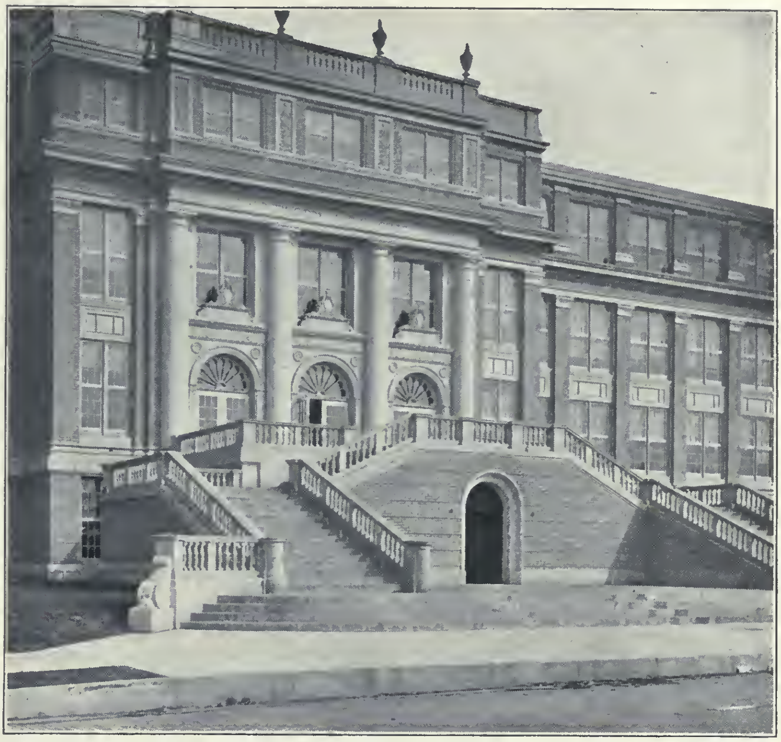
FIRST FLOOR PLAN, HIGH SCHOOL, HUNTINGTON, W. VA.


TYPEWRITING
STENOGRAPHY
CLASS ROOM
N
CLASS ROOM
SOUTH CORRIDOR
TEACHERS' ROOM
BOYS LOCKERS
B2
P
BOOKKEEPING and BANKING
CLASS ROOM
CLASS ROOM
UPPER PART OF STAGE
UPPER PART OF AUDITORIUM
BALCONY
CENTRAL CORRIDOR
LIBRARY
CLASS ROOM
STORAGE
O
G2
GIRLS LOCKERS
STUDY HALL
TEACHERS' ROOM
NORTH CORRIDOR
CLASS ROOM
CLASS ROOM
CLASS ROOM
HOSPITAL
M
CLASS ROOM
JANITORS' CLOSET UNDER BALCONY

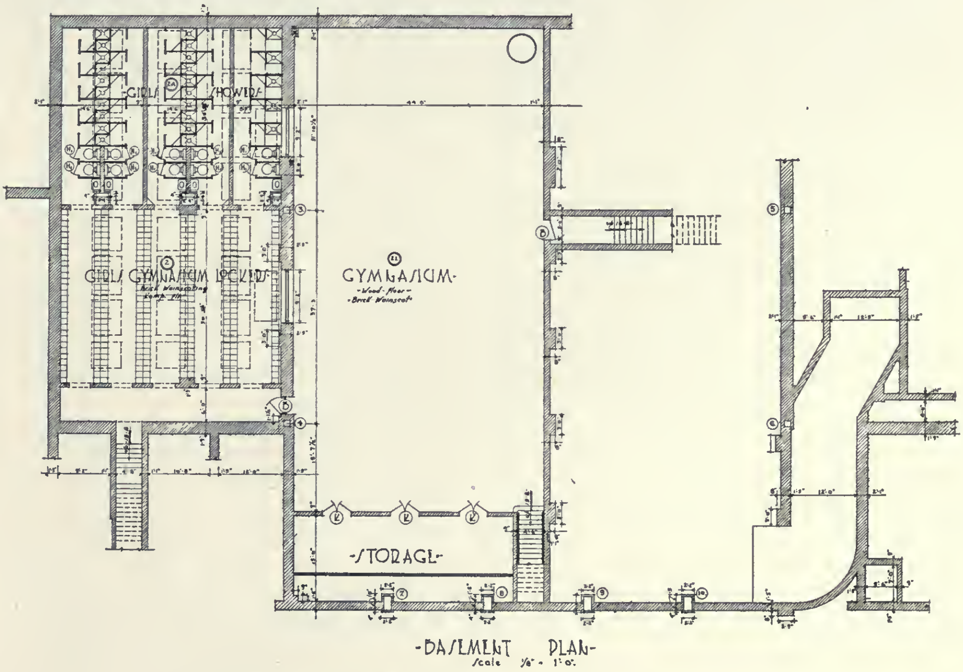
SECOND FLOOR PLAN, HIGH SCHOOL, HUNTINGTON, W. VA.


MUSIC ROOM
PREPARATION ROOM
DARK ROOM
AGRICULTURE LAB.
INTRODUCTORY SCIENCE
SOUTH CORRIDOR
TEACHERS ROOM
BOYS LOCKERS
PHYSICAL LABORATORY
PREPARATION ROOM
CLASS ROOM
FREEHAND DRAWING
EXHIBIT ROOM
ROOF
CENTRAL CORRIDOR
PHYSICS LECTURE ROOM
CHEMISTRY LECTURE ROOM
PRESENT CLASSROOM
FUTURE CHEMICAL LAB
GIRLS CHEMICAL LABORATORY
DARK ROOM
PREPARATION ROOM
GIRLS LOCKERS
NORTH CORRIDOR
TEACHERS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
OFFICE
BOYS CHEMICAL LAB

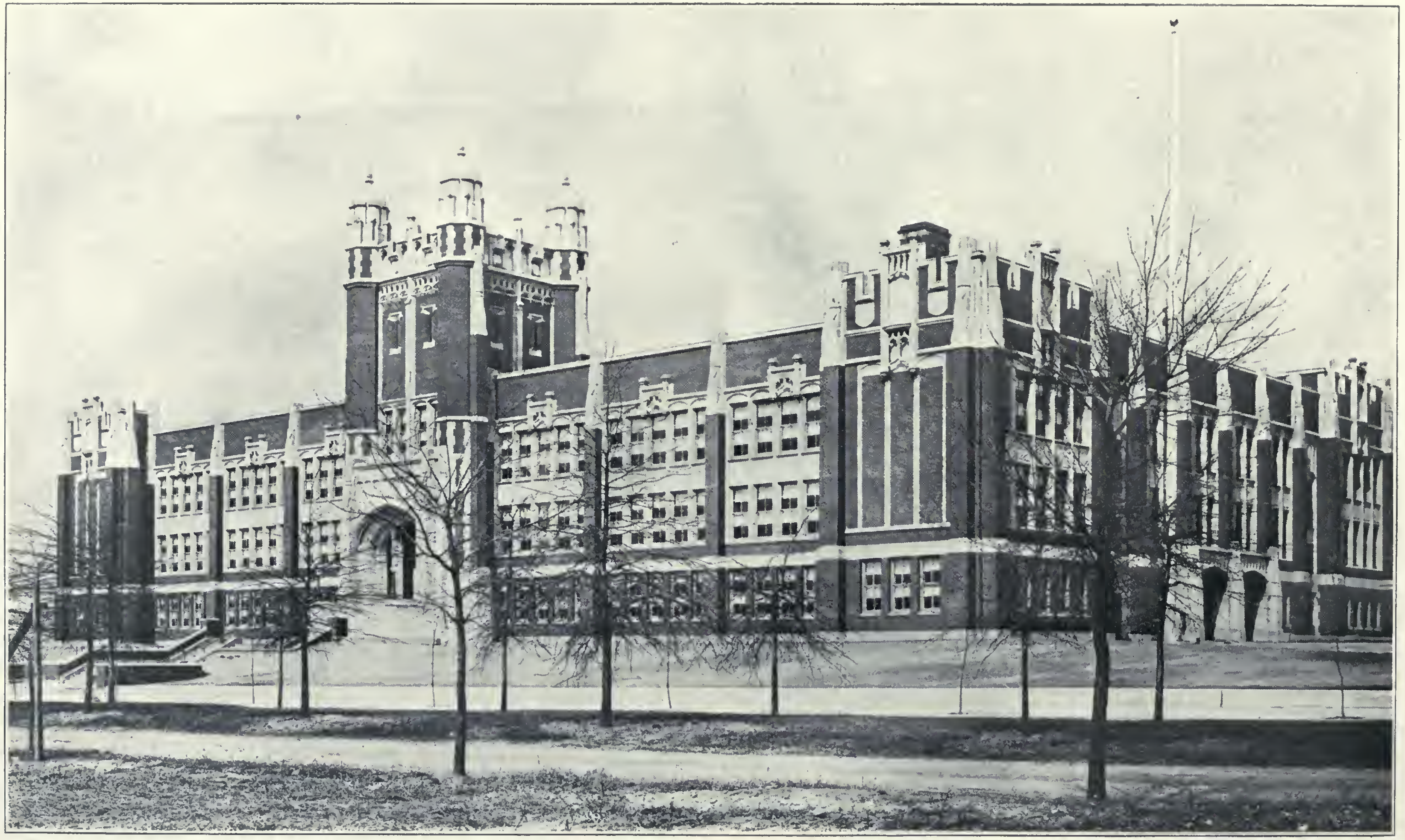
THIRD FLOOR PLAN, HIGH SCHOOL, HUNTINGTON, W. VA.



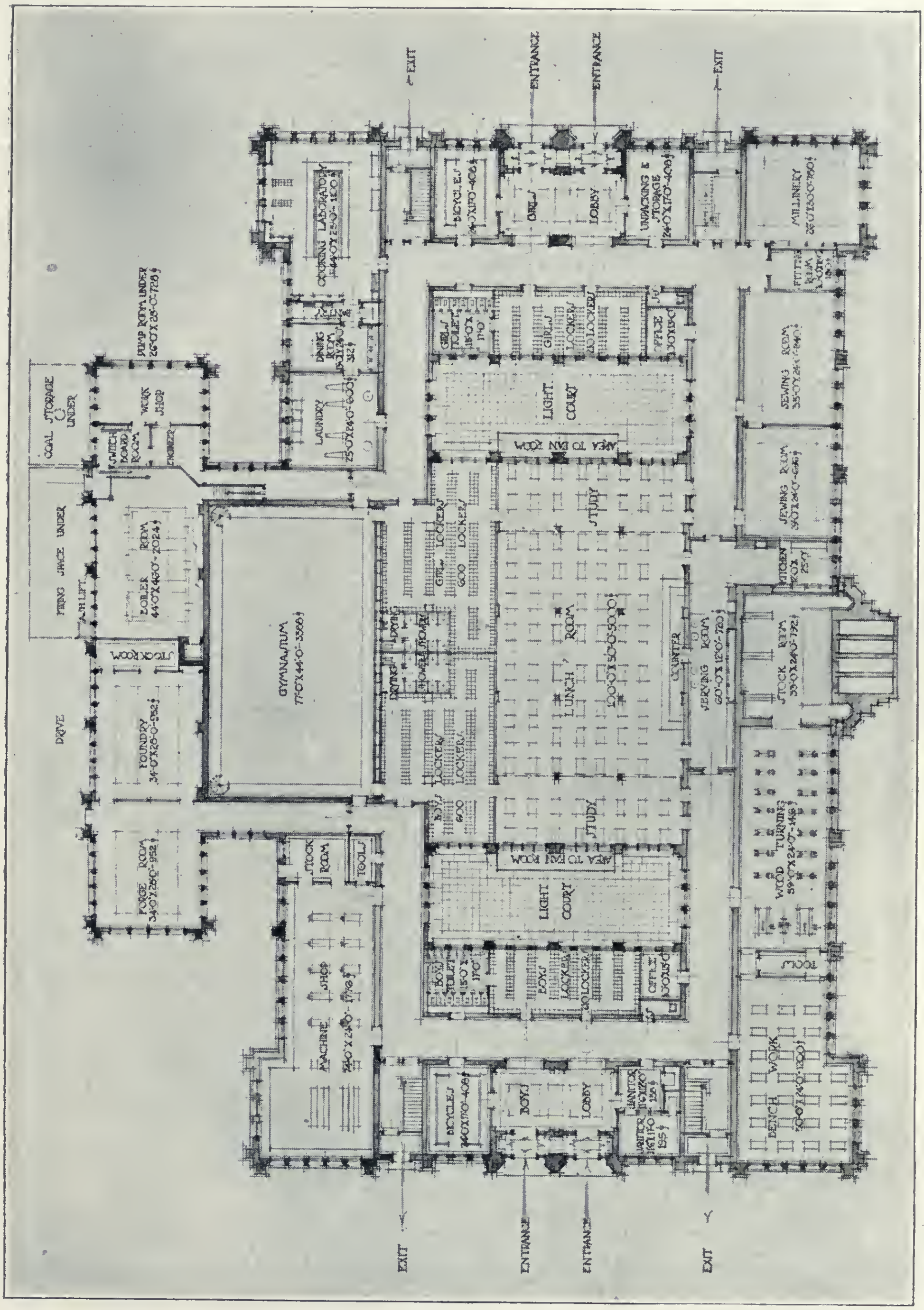
DETAIL, HIGH SCHOOL, HUNTINGTON, W. VA.


GIRLS SHOWERS
GIRLS GYMNASIUM LOCKERS
Brick Wainscoting
Comp. Flr.
GYMNASIUM
Wood Floor
Brick Wainscot
STORAGE
BASEMENT PLAN
Scale 1/8" = 1'0"

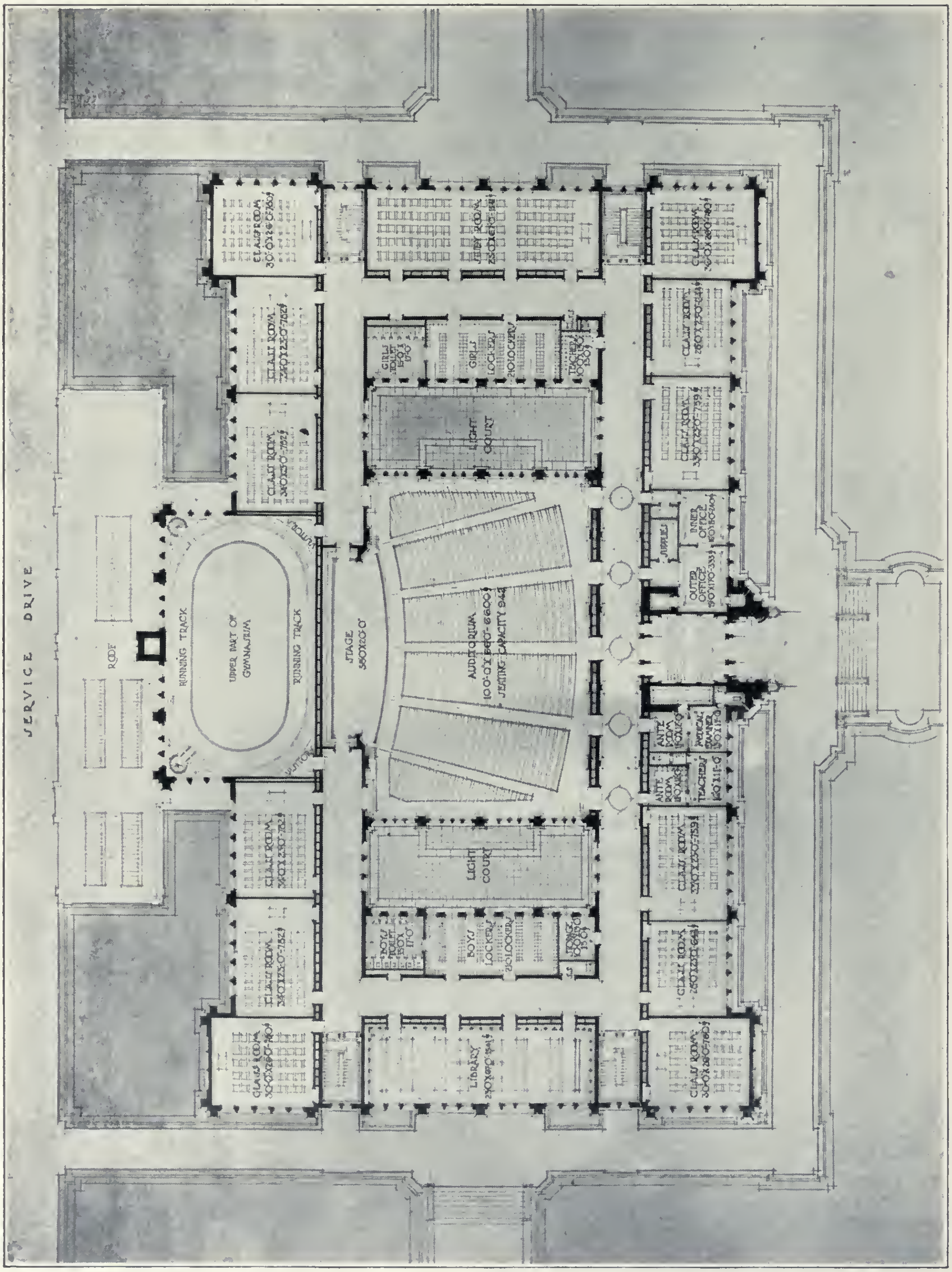
BASEMENT PLAN, HIGH SCHOOL, HUNTINGTON, W. VA.
Verus T. Ritter, Architect, Huntington, W. Va.



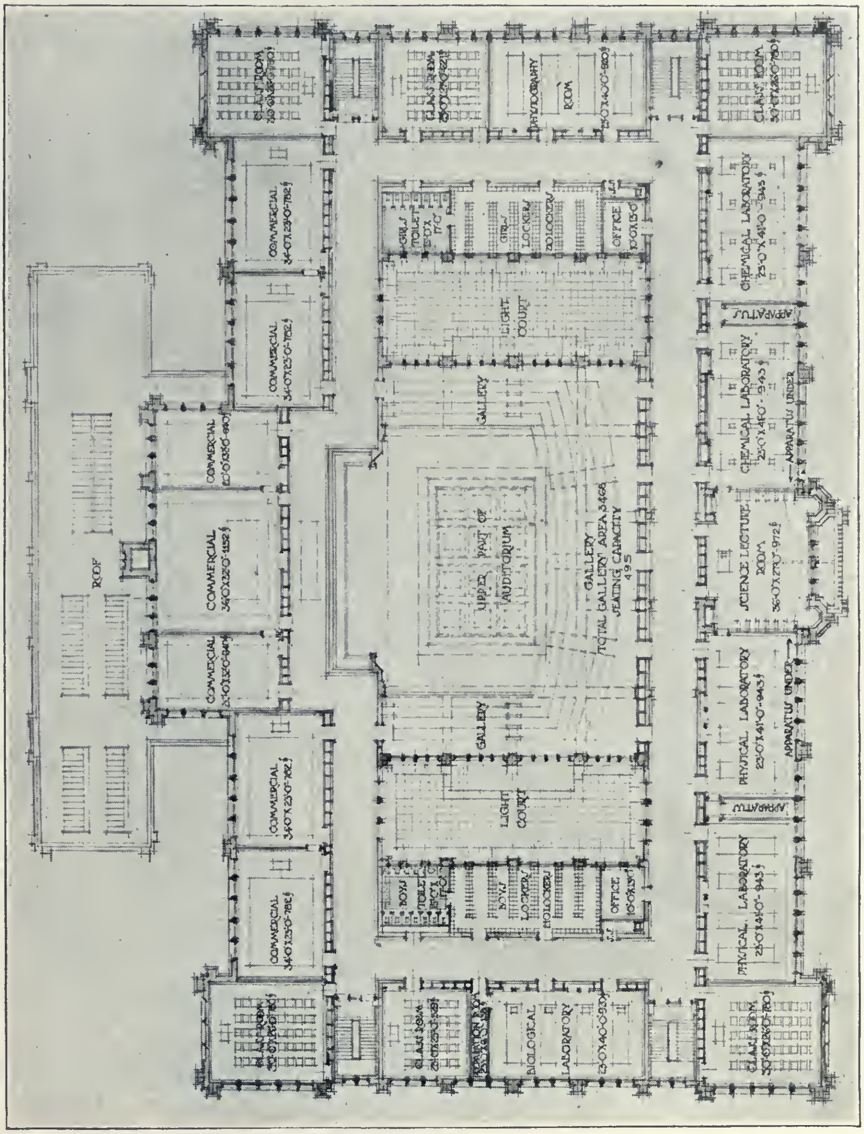
CAMDEN HIGH SCHOOL, CAMDEN, N. J.
Paul A. Davis, Architect, Philadelphia, Pa.


EXIT
ENTRANCE
ENTRANCE
EXIT
COOKING LABORATORY
BICYCLES
GIRLS
LOBBY
UNPACKING & STORAGE
MILLINERY
FITTING ROOM
PUMP ROOM UNDER
COAL STORAGE UNDER
WORK SHOP
SWITCH BOARD ROOM
DINING ROOM
LAUNDRY
GIRLS TOILET
GIRLS LOCKERS
OFFICE
LIGHT COURT
AREA TO FAN ROOM
SEWING ROOM
SEWING ROOM
KITCHEN
FIRING SPACE UNDER
ASH LIFT
BOILER ROOM
GIRLS LOCKERS 600 LOCKERS
STUDY
GYMNASIUM
LUNCH ROOM
COUNTER
SERVING ROOM
STOCK ROOM
STOCK ROOM
DRIVE
FOUNDRY
SHOWERS
DRYING
LOCKERS
WOOD TURNING
FORGE ROOM
STOCK ROOM
TOOLS
LIGHT COURT
AREA TO FAN ROOM
BOYS TOILET
BOYS LOCKERS
OFFICE
TOOLS
MACHINE SHOP
BENCH WORK
BICYCLES
BOYS
LOBBY
JANITOR
WAITING
EXIT
ENTRANCE
ENTRANCE
EXIT

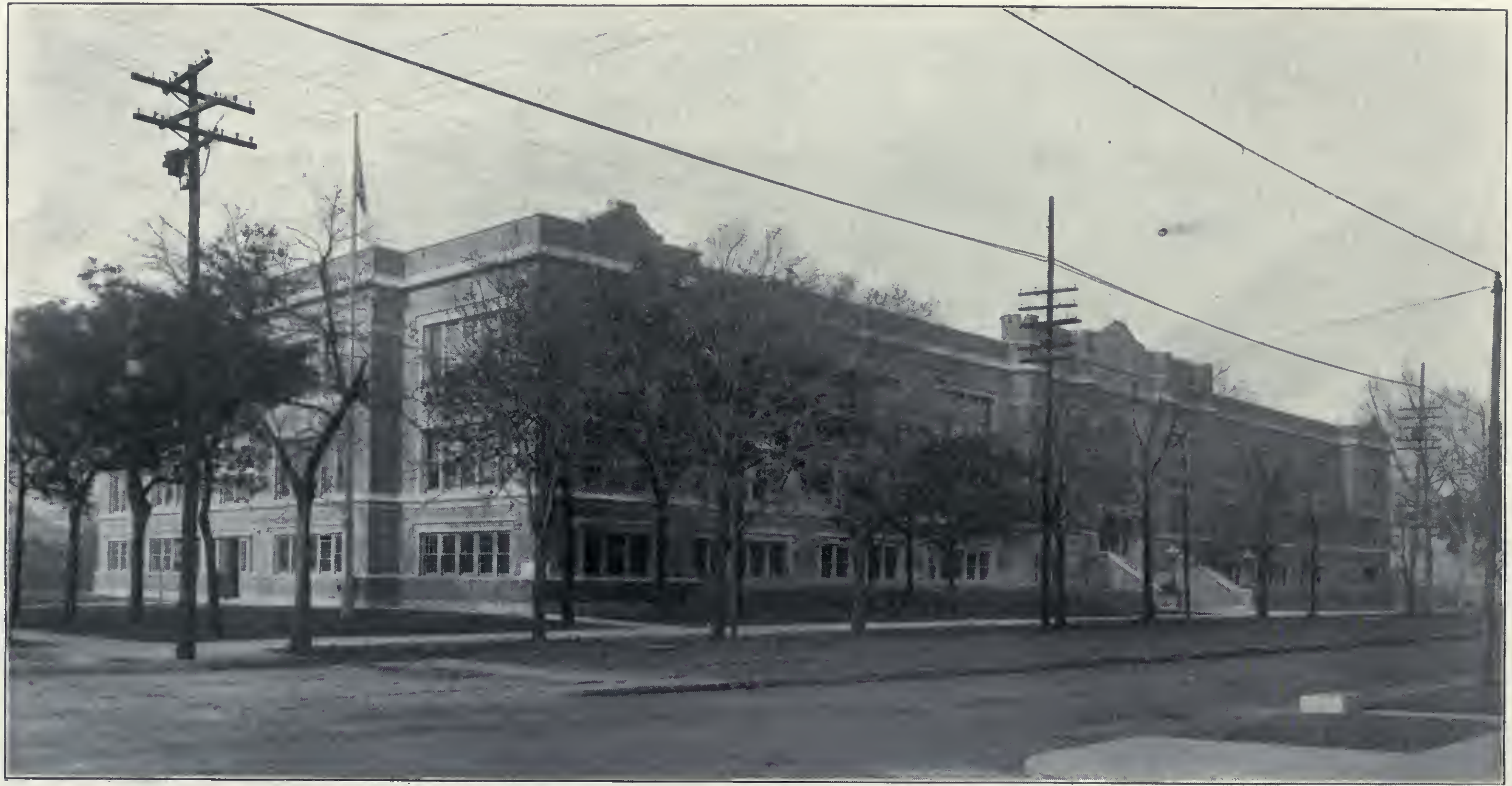
GROUND FLOOR PLAN, CAMDEN HIGH SCHOOL, CAMDEN, N. J.


SERVICE DRIVE
ROOF
RUNNING TRACK
UPPER PART OF GYMNASIUM
RUNNING TRACK
STAGE
AUDITORIUM
SEATING CAPACITY 942
LIGHT COURT
LIGHT COURT
CLASS ROOM
STUDY ROOM
GIRLS LOCKERS
BOYS LOCKERS
LIBRARY
SUPPLIES
INNER OFFICE
OUTER OFFICE
ANTE ROOM
TEACHERS

FIRST FLOOR PLAN, CAMDEN HIGH SCHOOL, CAMDEN, N. J.

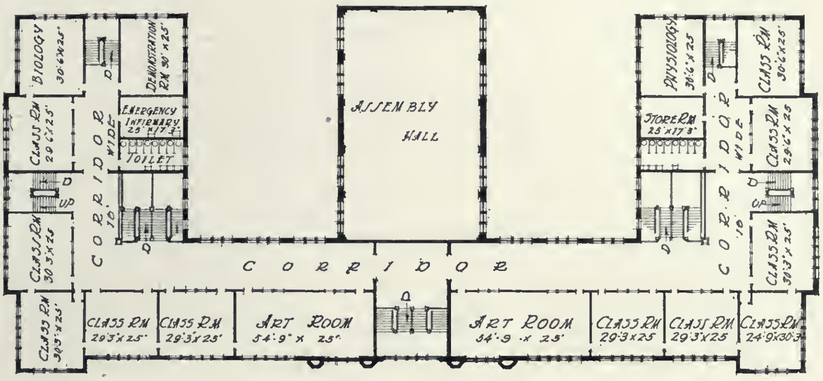

ROOF
COMMERCIAL
CLASS ROOM
PHOTOGRAPHY ROOM
GIRLS TOILET
GIRLS LOCKERS
OFFICE
LIGHT COURT
GALLERY
UPPER PART OF AUDITORIUM
GALLERY TOTAL GALLERY AREA 3468 SEATING CAPACITY 495
CHEMICAL LABORATORY
APPARATUS
APPARATUS UNDER
SCIENCE LECTURE ROOM
PHYSICAL LABORATORY
BOYS TOILET
BOYS LOCKERS
BIOLOGICAL LABORATORY

SECOND FLOOR PLAN, CAMDEN HIGH SCHOOL, CAMDEN, N. J.
Paul A. Davis, Architect, Philadelphia, Pa.

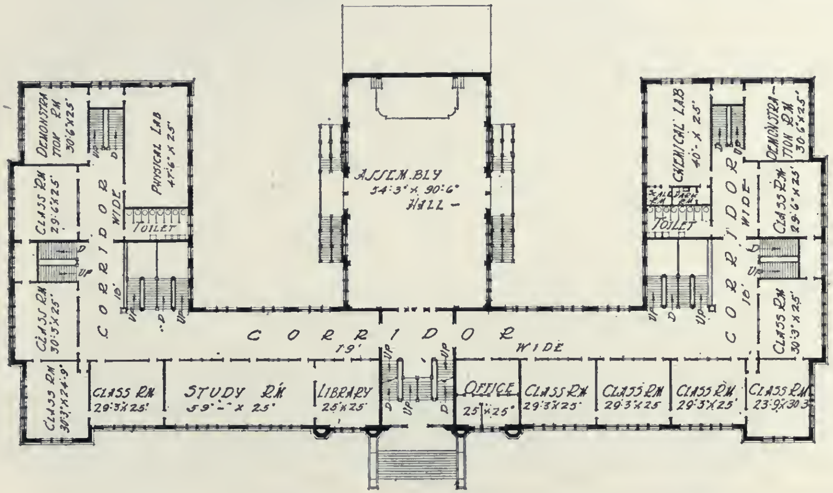


ESPLANADE AVENUE HIGH SCHOOL, NEW ORLEANS, LA.
E. A. Christy, Municipal Architect, New Orleans,

SECOND FLOOR PLAN.

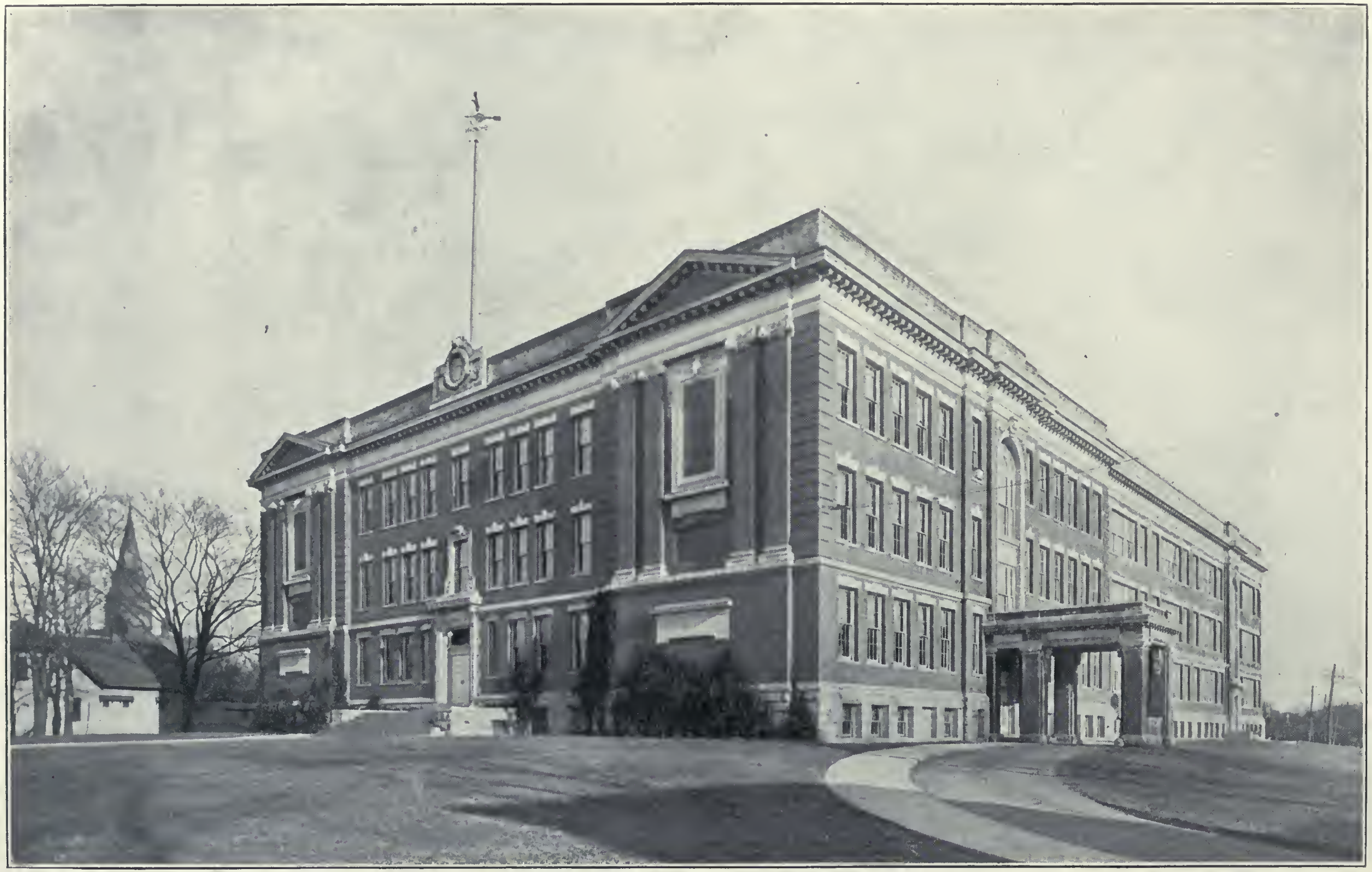

BIOLOGY 30'6"x25'
DEMONSTRATION RM 30'x25'
EMERGENCY INFIRMARY 25'x17'3"
TOILET
CLASS RM 29'6"x25'
CLASS RM 30'3"x25'
CLASS RM 30'3"x25'
CORRIDOR 10' WIDE
ASSEMBLY HALL
CORRIDOR
CLASS RM 29'3"x25'
CLASS RM 29'3"x25'
ART ROOM 54'9"x25'
ART ROOM 54'9"x25'
CLASS RM 29'3x25
CLASS RM 29'3x25
CLASS RM 24'9"x30'3"
PHYSIOLOGY 30'6"x25
STORE RM 25'x17'3"
CLASS RM 30'6"x25
CLASS RM 29'6"x25
CLASS RM 30'3"x25'
CORRIDOR 10' WIDE
UP
D

FIRST FLOOR PLAN.

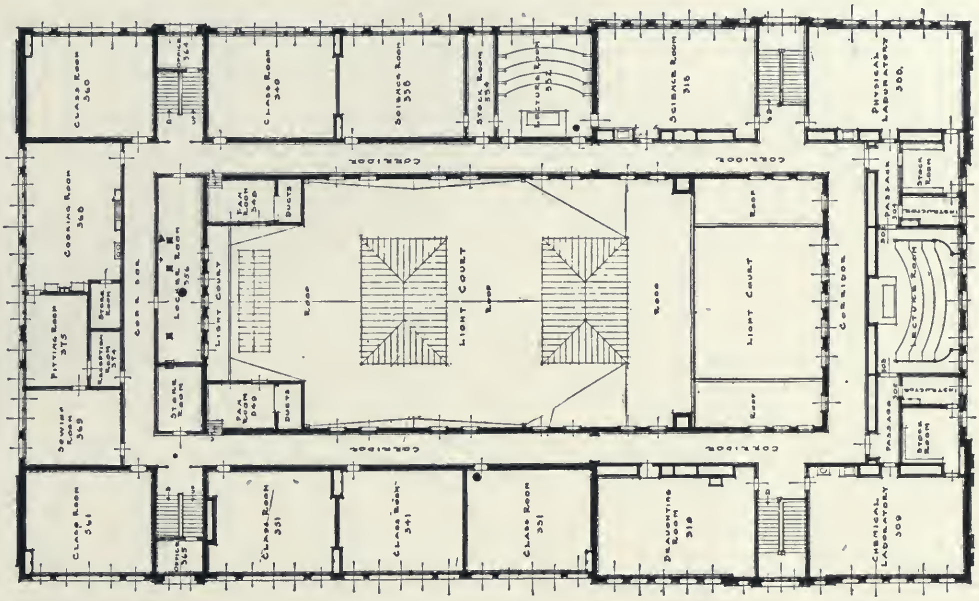

DEMONSTRATION RM 30'6"x25'
PHYSICAL LAB 47'6"x25'
TOILET
CLASS RM 29'6"x25'
CLASS RM 30'3"x25'
CLASS RM 30'3"x24'9"
CORRIDOR 10' WIDE
ASSEMBLY HALL 54'3"x 90'6"
CORRIDOR 19' WIDE
CLASS RM 29'3"x25'
STUDY RM 59'-"x25'
LIBRARY 26'x25'
OFFICE 25'x25'
CLASS RM 29'3"x25'
CLASS RM 29'3"x25
CLASS RM 29'3"x25'
CLASS RM 23'9"x30'3"
CHEMICAL LAB 40'x25'
TOILET
DEMONSTRATION RM 30'6"x25'
CLASS RM 29'6"x25'
CLASS RM 30'3"x25'
CORRIDOR 10' WIDE
UP
D

ASSEMBLY ROOM

ESPLANADE AVENUE HIGH SCHOOL, NEW ORLEANS, LA.

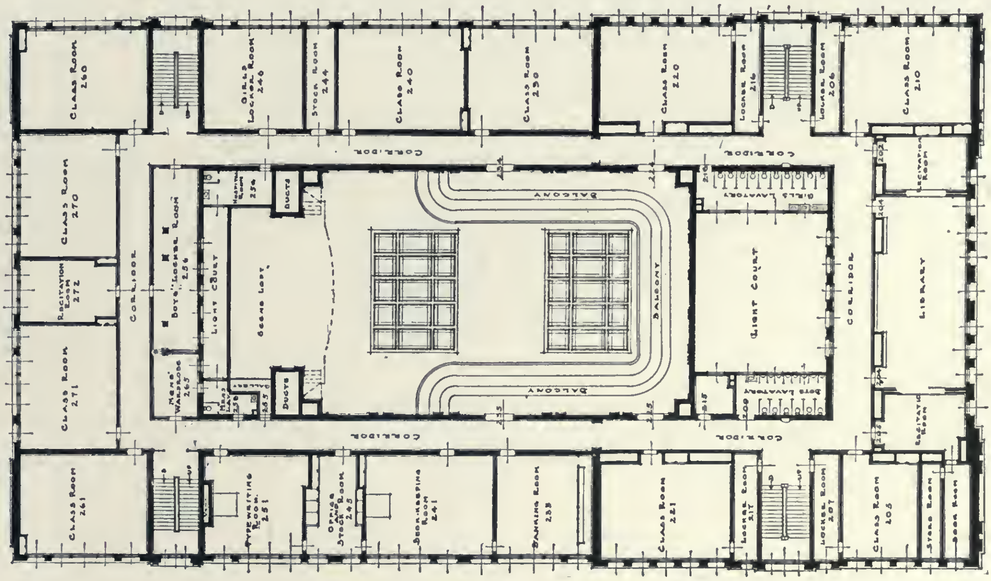


PLAINFIELD HIGH SCHOOL, PLAINFIELD, N. J.
Wilder & White, Architects, New York, N. Y.

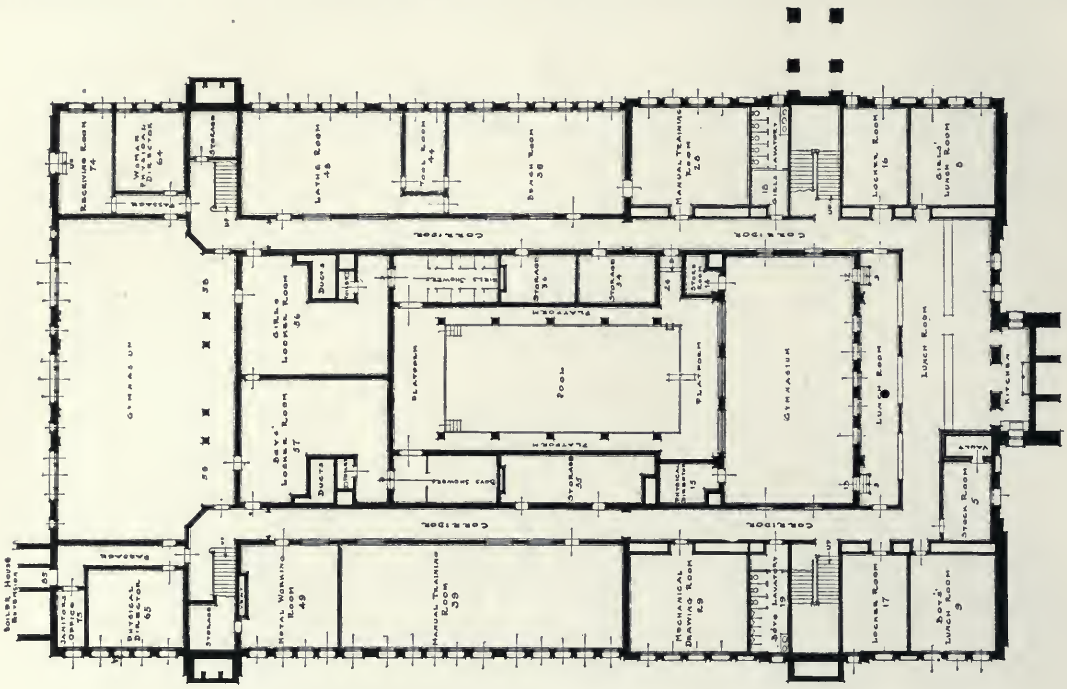

Class Room 360
Office 364
Class Room 340
Science Room 338
Stock Room 334
Lecture Room 332
Science Room 318
Physical Laboratory 300
Corridor
Cooking Room
Store Room
Fitting Room 375
Reception Room 374
Sewing Room 369
Locker Room 356
Light Court
Fan Room 348
Ducts
Roof
Light Court
Roof
Light Court
Roof
Fan Room 349
Ducts
Store Room
Corridor
Passage
Stock Room
Lecture Room
Passage
Stock Room
Class Room 361
Office 365
Class Room 351
Class Room 341
Class Room 331
Drafting Room 319
Chemical Laboratory 309

PLAN OF THIRD FLOOR

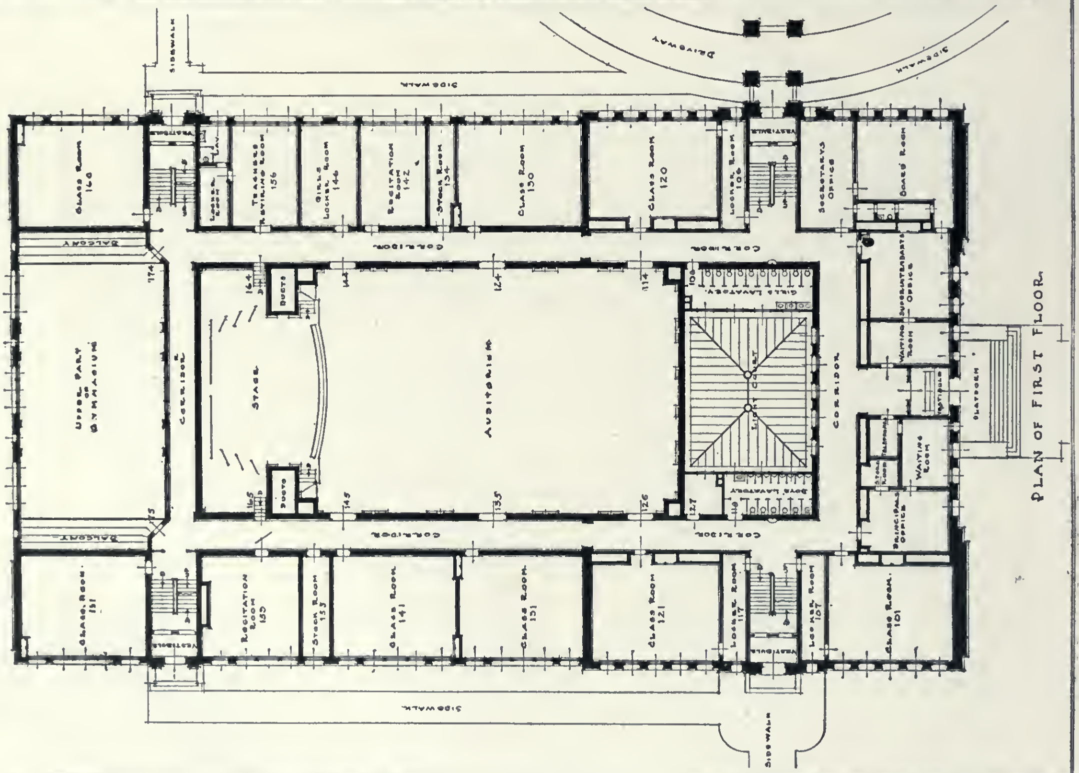
PLAINFIELD HIGH SCHOOL, PLAINFIELD, N. J.


Class Room 260
Girls Locker Room 246
Stock Room 244
Class Room 240
Class Room 230
Class Room 220
Locker Room 216
Locker Room 206
Class Room 210
Corridor
Class Room 270
Recitation Room 272
Class Room 271
Boys' Locker Room 256
Men's Wardrobe 265
Light Court
Scene Loft
Ducts
Balcony
Girls Lavatory
Light Court
Boys Lavatory
Corridor
Recitation Room
Library
Recitation Room
Class Room 261
Typewriting Room 251
Office and Stock Room 245
Bookkeeping Room 241
Banking Room 238
Class Room 221
Locker Room 217
Locker Room 207
Class Room 205
Stock Room
Book Room

PLAN OF SECOND FLOOR

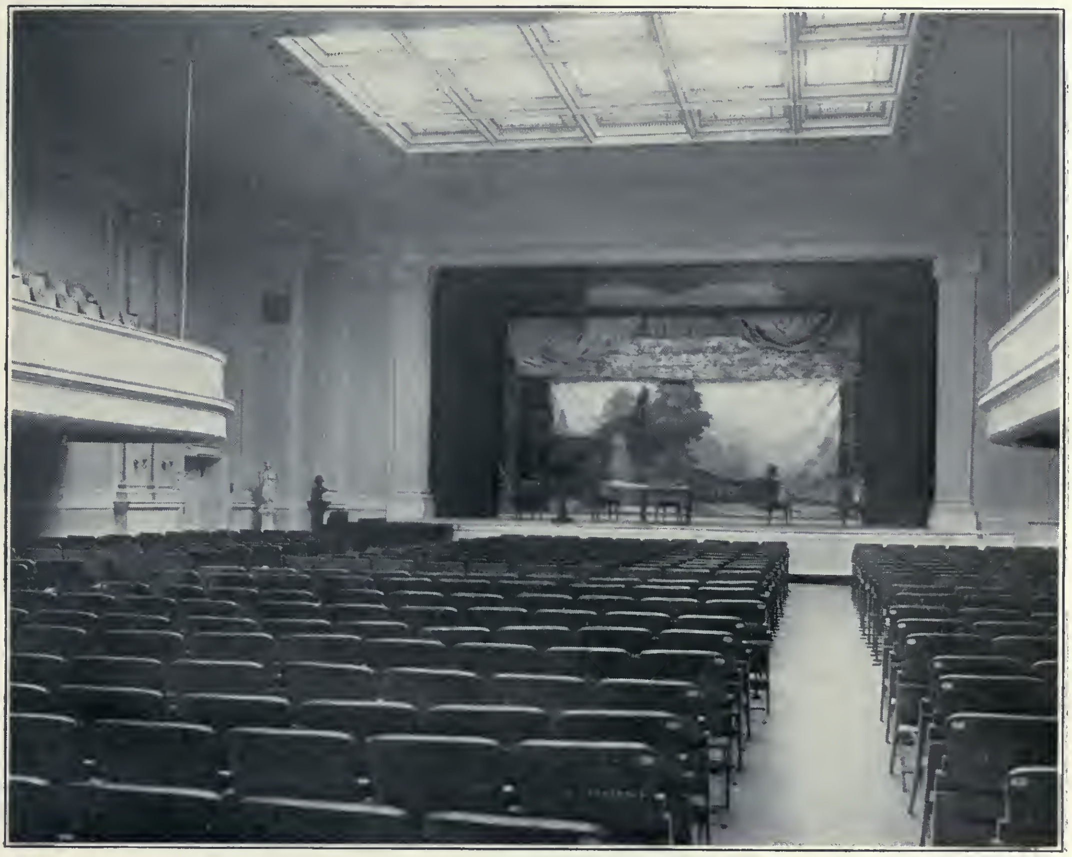

Receiving Room 74
Woman Physical Director 64
Storage
Lathe Room 48
Tool Room 44
Bench Room 38
Manual Training Room 20
Girls Lavatory 18
Locker Room 16
Girls' Lunch Room 8
Corridor
Gymnasium
Girls Locker Room 56
Ducts
Girls Showers
Storage 36
Storage 34
Platform
Pool
Lunch Room
Kitchen
Vault
Stock Room 5
Boys' Locker Room 57
Boys Showers
Storage 35
Physical Director 15
Boiler House Extension
Janitor's Office 75
Physical Director 65
Passage
Metal Working Room 49
Manual Training Room 39
Mechanical Drawing Room 29
Boys Lavatory 19
Locker Room 17
Boys' Lunch Room 9
Up

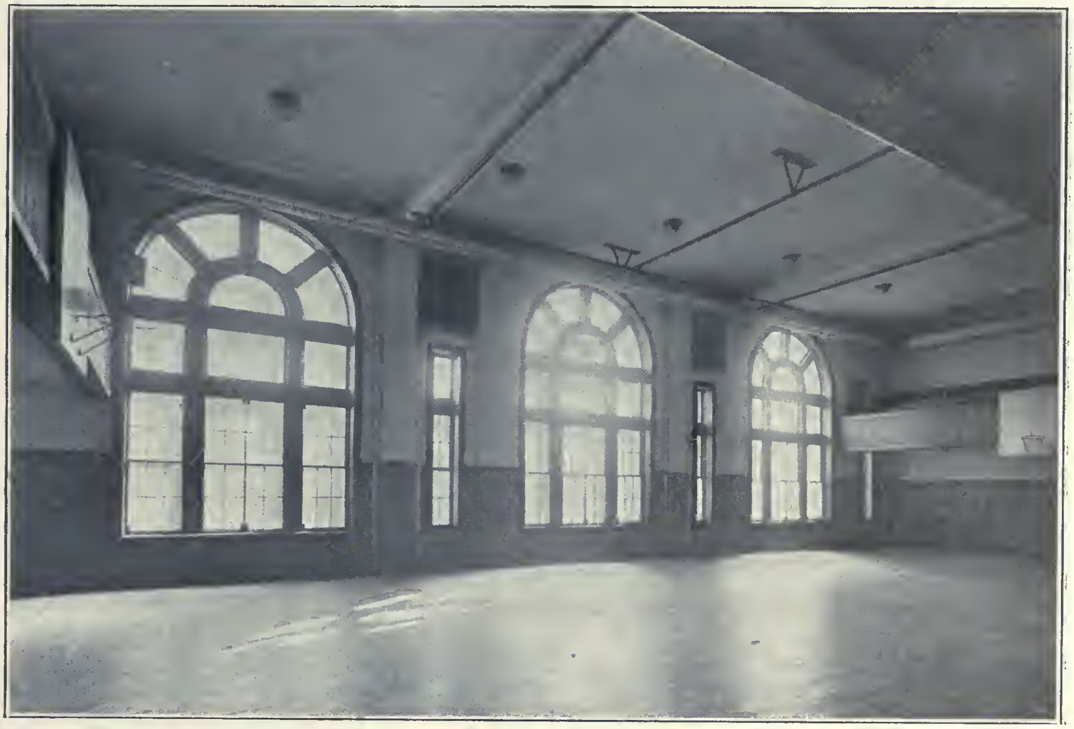
PLAN OF BASEMENT


Sidewalk
Driveway
Vestibule
Class Room 160
Locker Room
Teachers Retiring Room 156
Girls Locker Room 144
Recitation Room 142
Stock Room 134
Class Room 130
Class Room 120
Locker Room 106
Secretary's Office
Board Room
Corridor
Balcony
Upper Part of Gymnasium
Stage
Ducts
Auditorium
Girls Lavatory
Light Court
Boys Lavatory
Superintendent's Office
Waiting Room
Platform
Principal's Office
Class Room 151
Recitation Room 155
Stock Room 153
Class Room 141
Class Room 131
Class Room 121
Locker Room 117
Locker Room 107
Class Room 101
Up

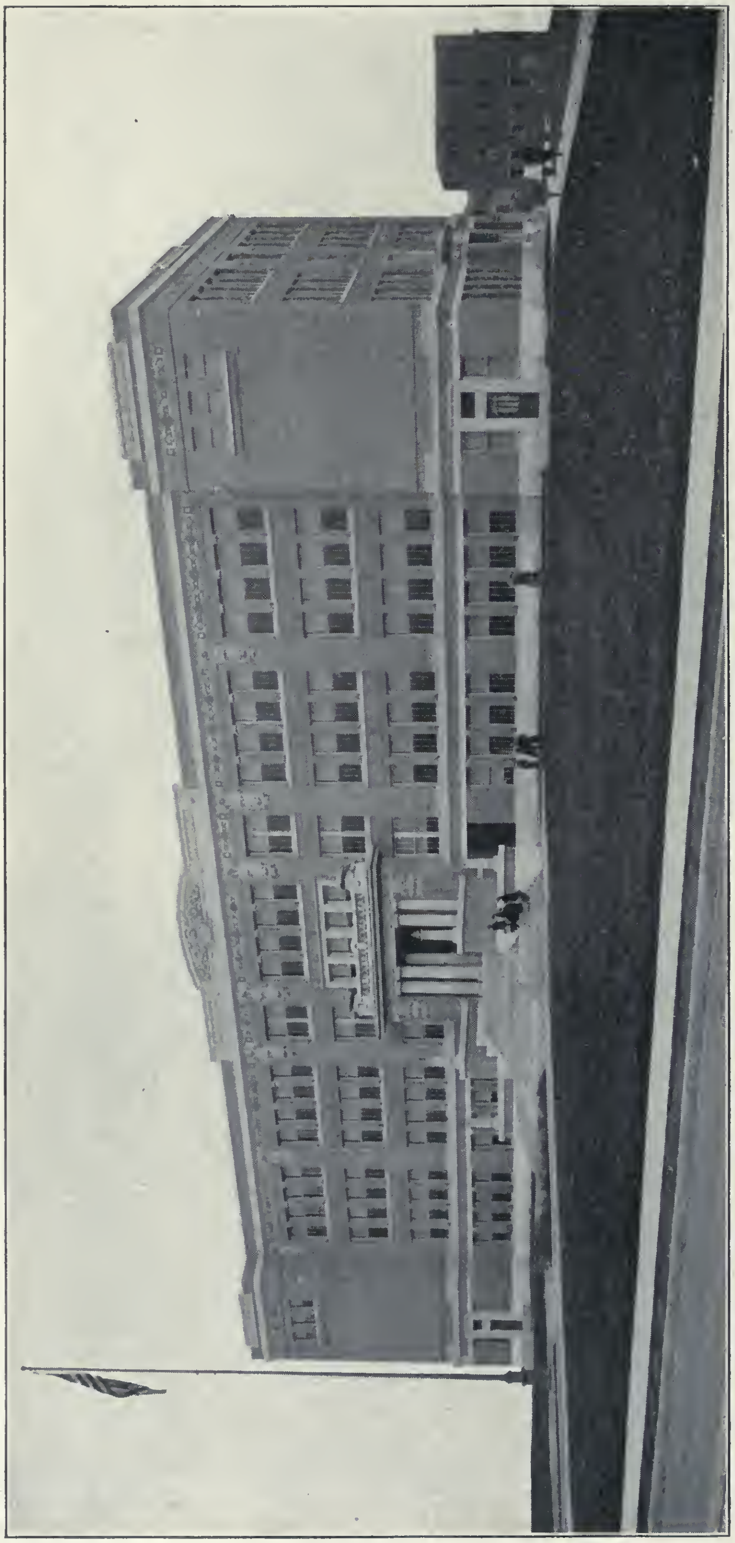
PLAN OF FIRST FLOOR

PLAINFIELD HIGH SCHOOL, PLAINFIELD, N. J.

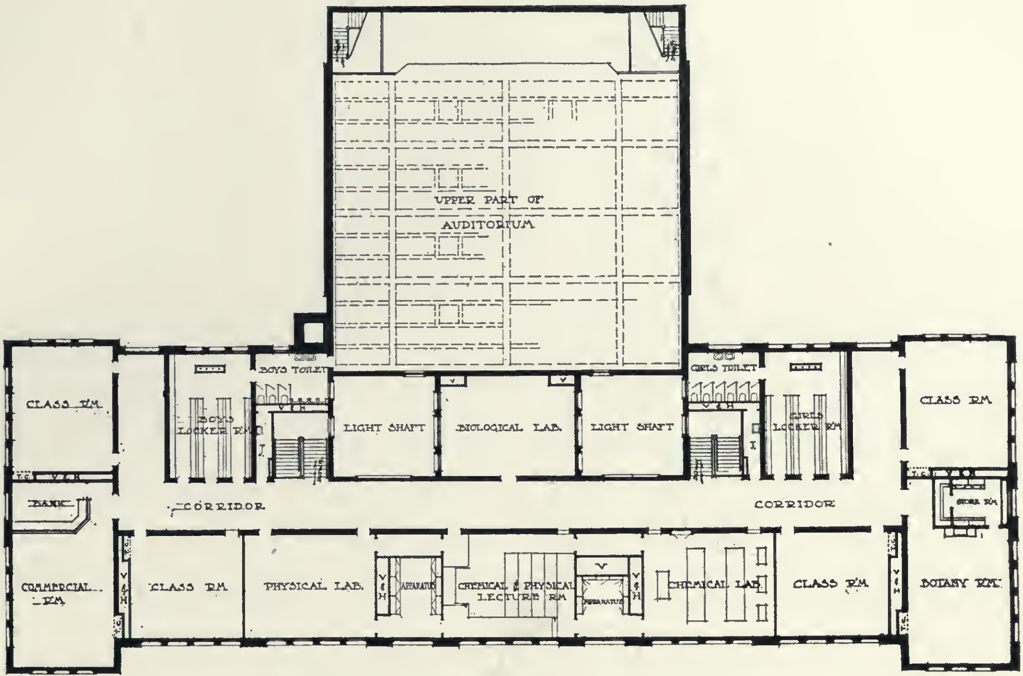




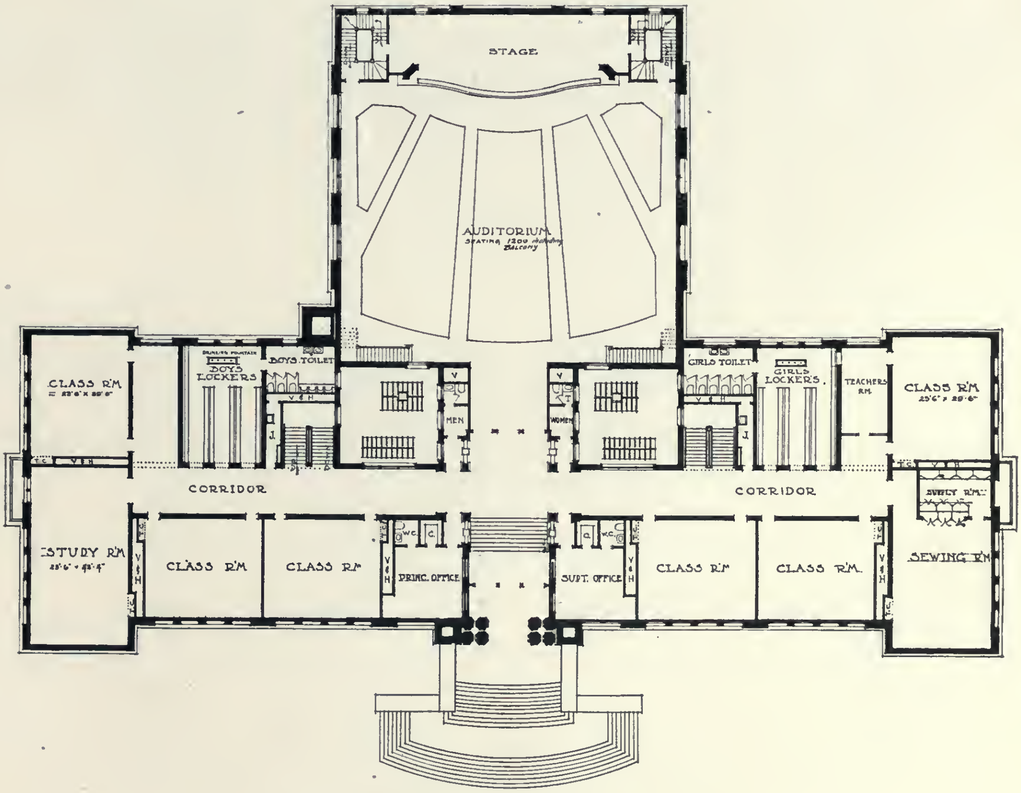
ABOVE, AUDITORIUM; BELOW, GYMNASIUM, PLAINFIELD HIGH SCHOOL.



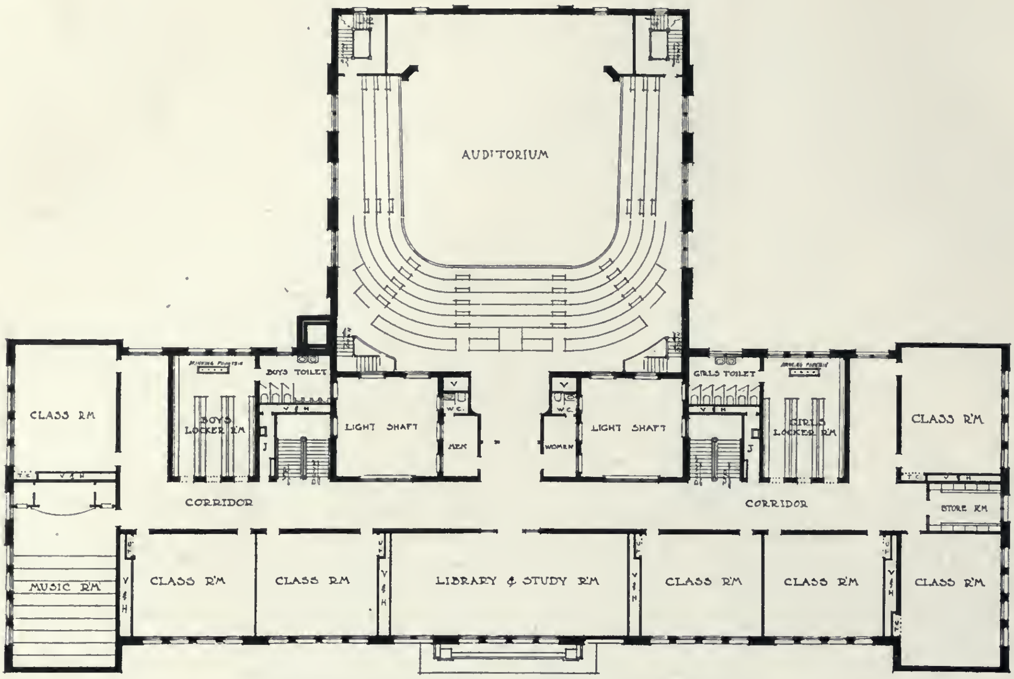
NORWOOD HIGH SCHOOL, NORWOOD, O.
Bausmith & Drainie, Architects, Cincinnati O.


UPPER PART OF AUDITORIUM
CLASS RM
BOYS TOILET
BOYS LOCKER RM
LIGHT SHAFT
BIOLOGICAL LAB.
LIGHT SHAFT
GIRLS TOILET
GIRLS LOCKER RM
CLASS RM
BANK
CORRIDOR
CORRIDOR
STORE RM
COMMERCIAL RM
CLASS RM
PHYSICAL LAB.
APPARATUS
CHEMICAL & PHYSICAL LECTURE RM
APPARATUS
CHEMICAL LAB.
CLASS RM
BOTANY RM

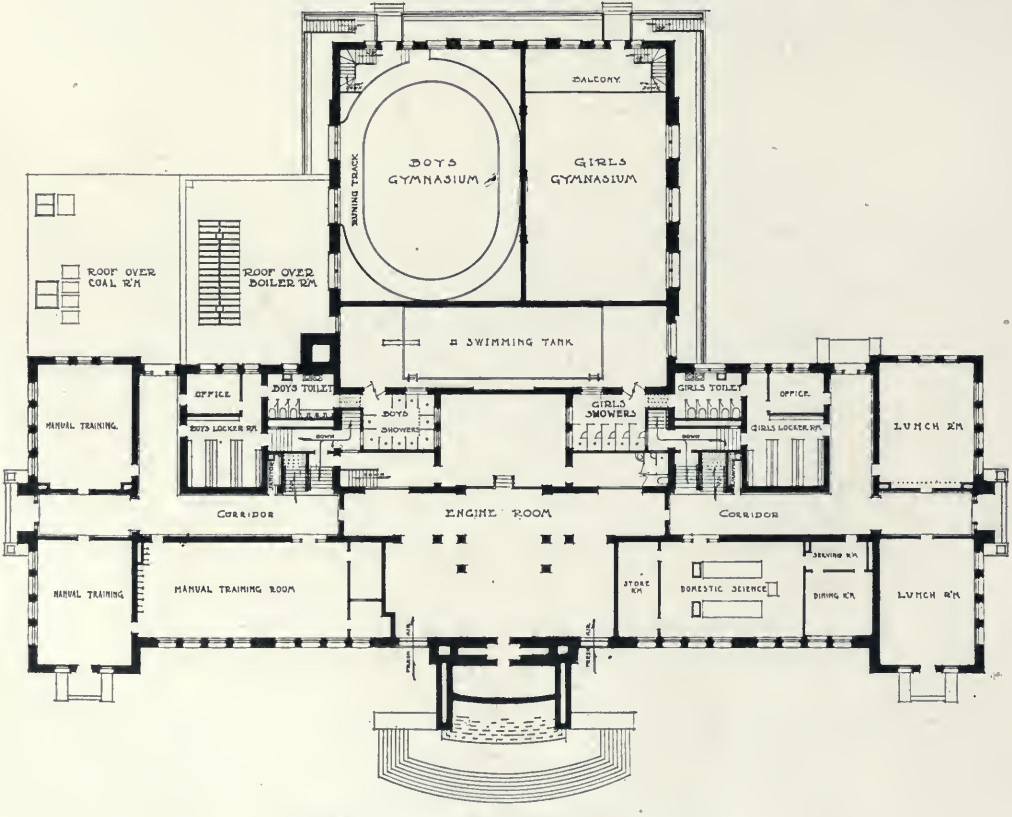
THIRD FLOOR PLAN, NORWOOD HIGH SCHOOL.


STAGE
AUDITORIUM
SEATING 1200 including Balcony
CLASS RM
23'6" x 29'6"
DRINKING FOUNTAIN
BOYS LOCKERS
BOYS TOILET
MEN
WOMEN
GIRLS TOILET
GIRLS LOCKERS
TEACHERS RM
CLASS RM
25'6" x 29'6"
CORRIDOR
CORRIDOR
SUPPLY RM
STUDY RM
23'6" x 45'4"
CLASS RM
CLASS RM
W.C.
PRINC. OFFICE
SUPT. OFFICE
W.C.
CLASS RM
CLASS RM
SEWING RM

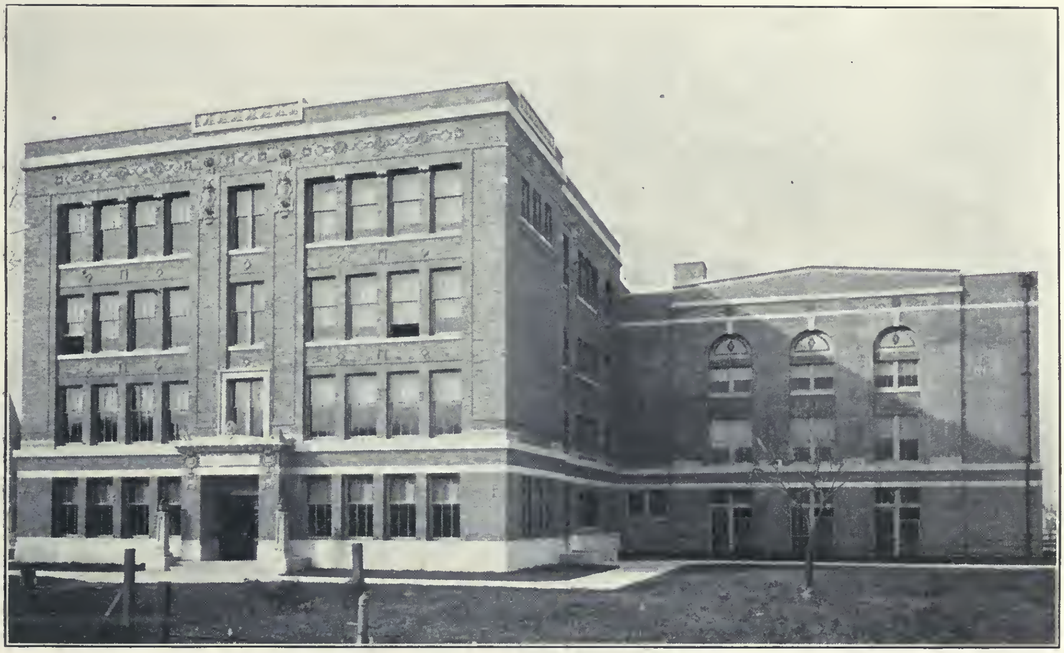
FIRST FLOOR PLAN, NORWOOD HIGH SCHOOL.


AUDITORIUM
CLASS R'M
BOYS LOCKER R'M
BOYS TOILET
LIGHT SHAFT
W.C.
MEN
W.C.
WOMEN
LIGHT SHAFT
GIRLS TOILET
GIRLS LOCKER R'M
CLASS R'M
CORRIDOR
CORRIDOR
STORE R'M
MUSIC R'M
CLASS R'M
CLASS R'M
LIBRARY & STUDY R'M
CLASS R'M
CLASS R'M
CLASS R'M

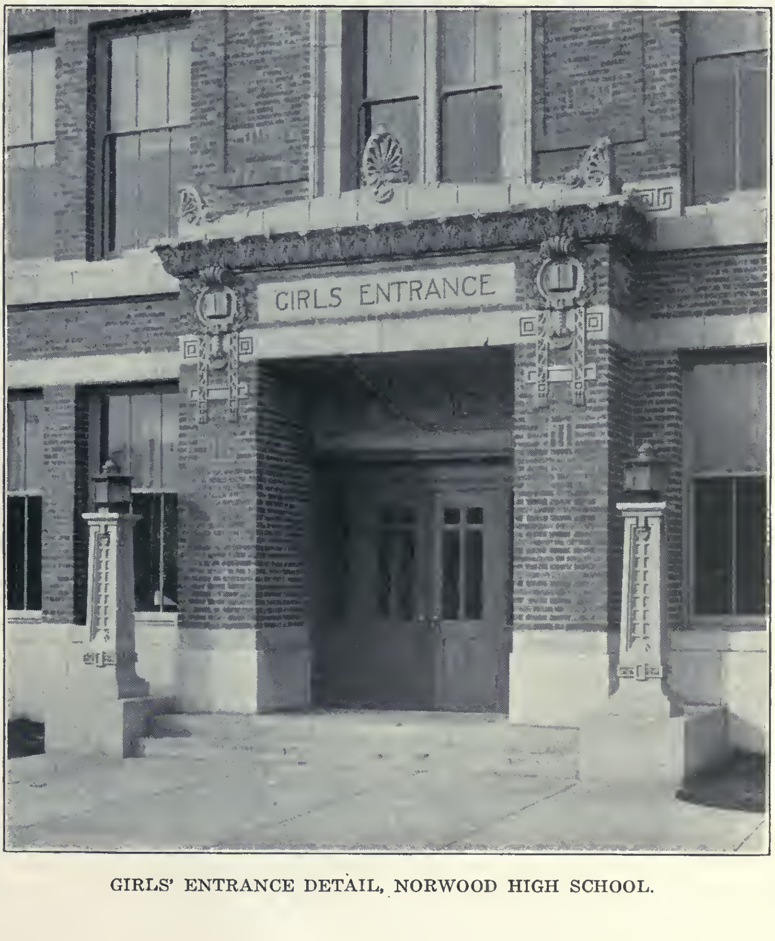
SECOND FLOOR PLAN, NORWOOD HIGH SCHOOL.


BALCONY
BOYS GYMNASIUM
RUNING TRACK
GIRLS GYMNASIUM
ROOF OVER COAL R'M
ROOF OVER BOILER R'M
SWIMMING TANK
MANUAL TRAINING.
OFFICE
BOYS LOCKER R'M
BOYS TOILET
BOYS SHOWERS
JANITOR
GIRLS SHOWERS
GIRLS TOILET
OFFICE
GIRLS LOCKER R'M
LUNCH R'M
CORRIDOR
ENGINE ROOM
CORRIDOR
MANUAL TRAINING
MANUAL TRAINING ROOM
FRESH AIR
FRESH AIR
STORE R'M
DOMESTIC SCIENCE
SERVING R'M
DINING R'M
LUNCH R'M

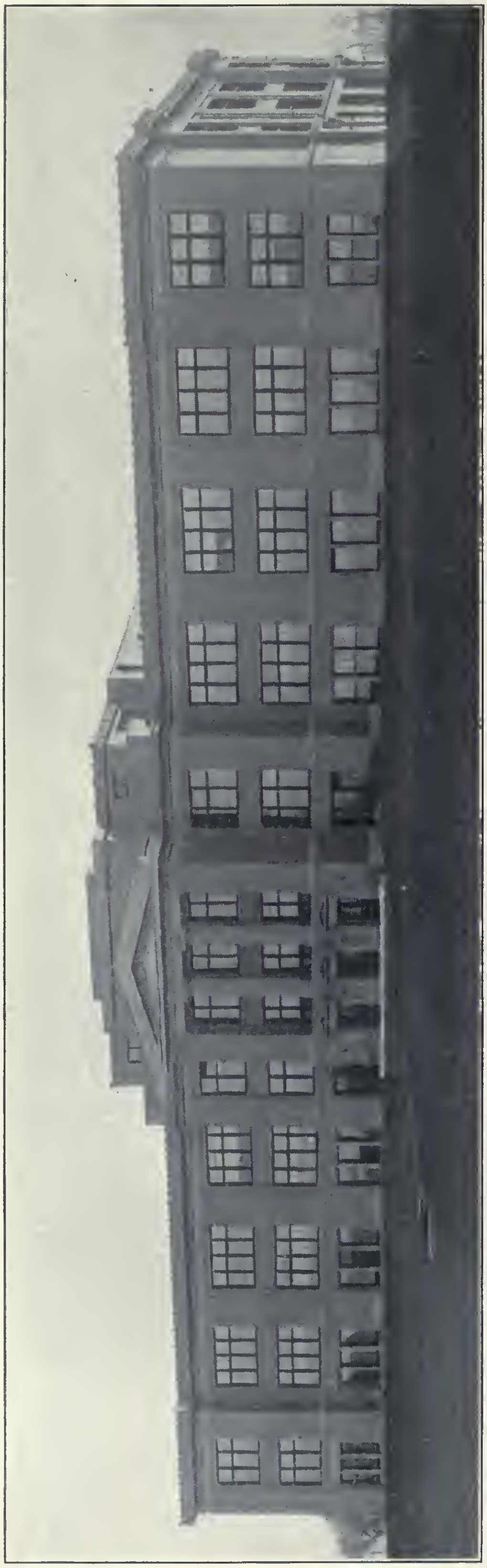
BASEMENT PLAN, NORWOOD HIGH SCHOOL.
Bausmith & Drainie, Architects, Cincinnati O.



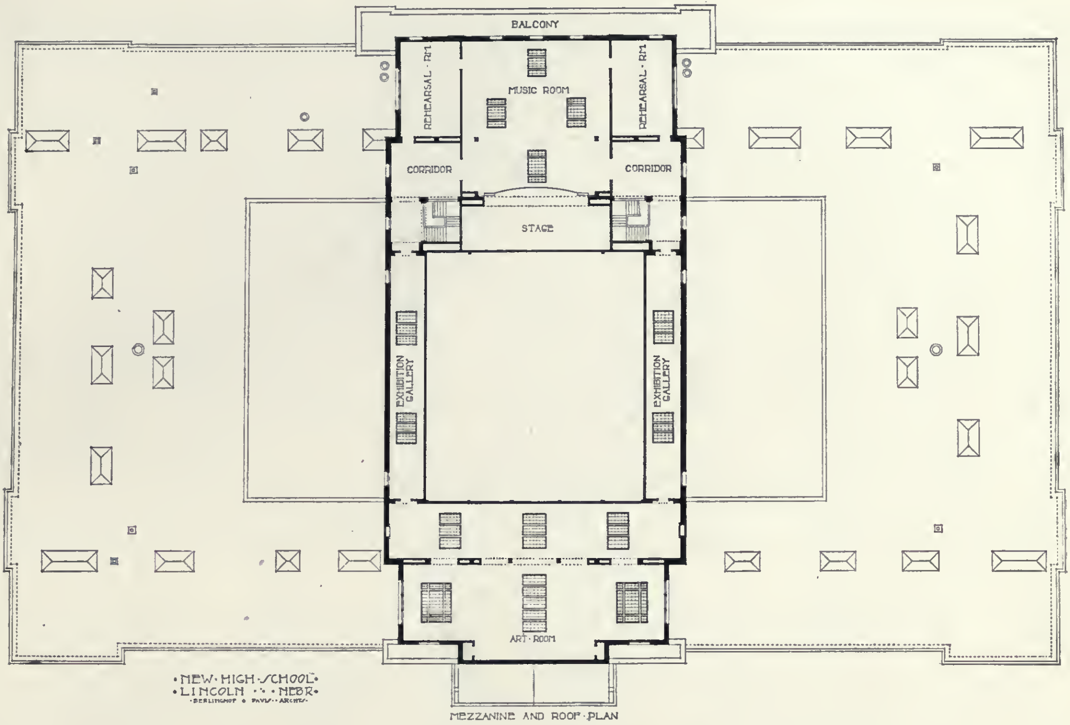
DETAIL, NORWOOD HIGH SCHOOL.

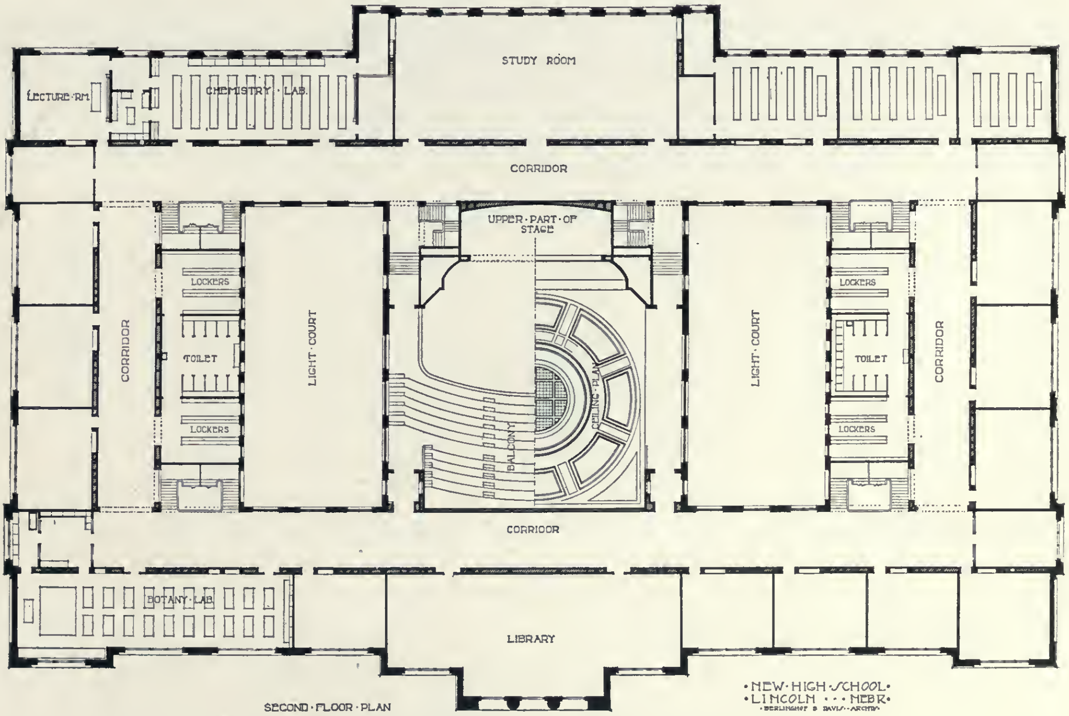

GIRLS ENTRANCE

GIRLS' ENTRANCE DETAIL, NORWOOD HIGH SCHOOL.

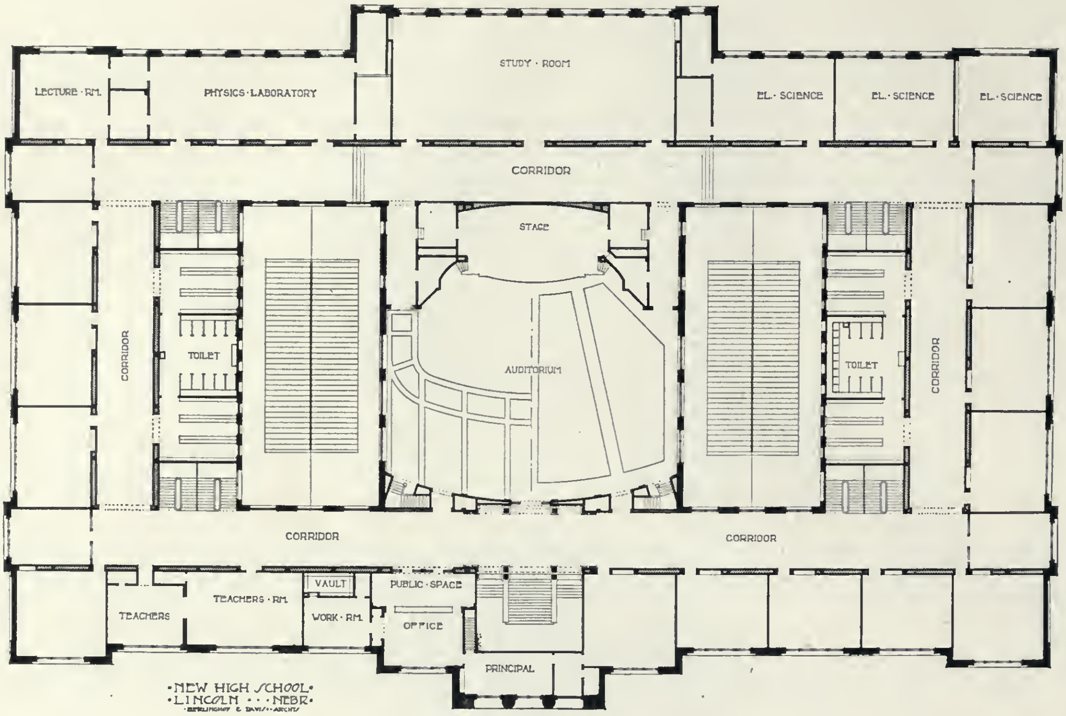


LINCOLN HIGH SCHOOL, LINCOLN, NEB.
Berlinghof & Davis, Architects, Lincoln.

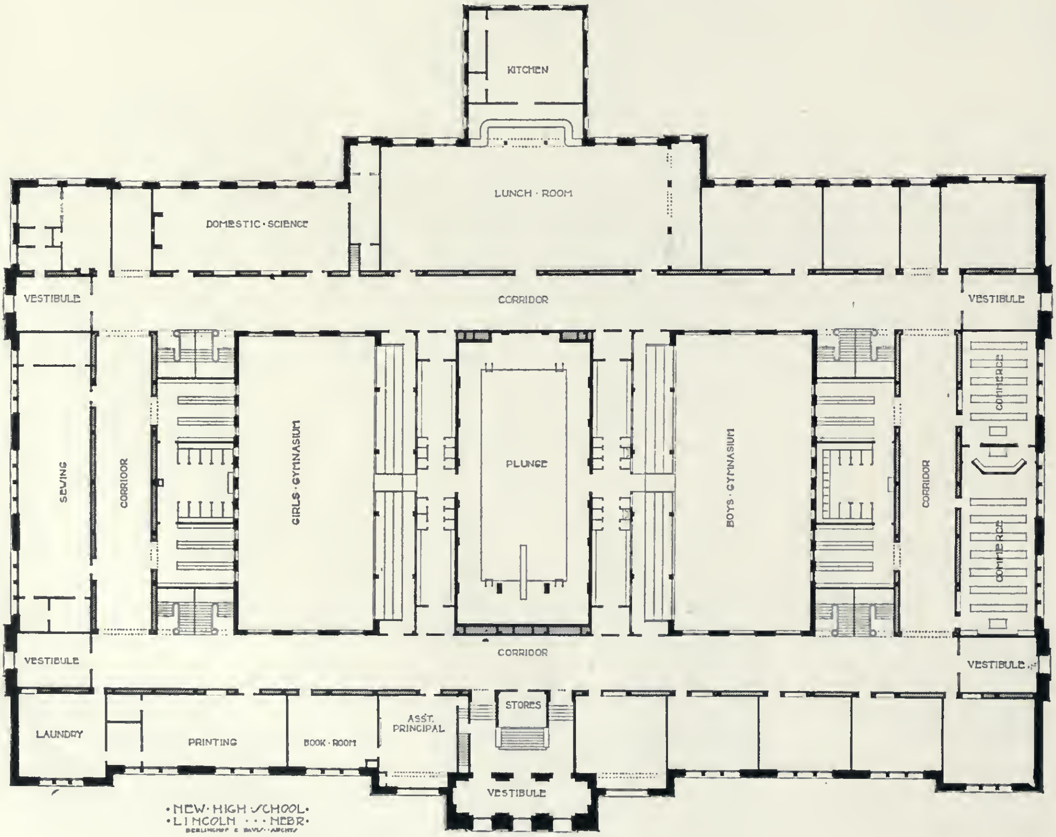

BALCONY
REHEARSAL·RM
MUSIC ROOM
REHEARSAL·RM
CORRIDOR
CORRIDOR
STAGE
EXHIBITION GALLERY
EXHIBITION GALLERY
ART·ROOM
·NEW·HIGH·SCHOOL·
·LINCOLN · · ·NEBR·
·BERLINGHOF & DAVIS··ARCHTS·
MEZZANINE AND ROOF·PLAN


LECTURE·RM
CHEMISTRY·LAB.
STUDY ROOM
CORRIDOR
UPPER·PART·OF STAGE
LOCKERS
TOILET
LOCKERS
CORRIDOR
LIGHT·COURT
BALCONY
CEILING·PLAN
LIGHT·COURT
LOCKERS
TOILET
LOCKERS
CORRIDOR
CORRIDOR
BOTANY·LAB.
LIBRARY
SECOND·FLOOR·PLAN
·NEW·HIGH·SCHOOL·
·LINCOLN · · ·NEBR·
·BERLINGHOF & DAVIS··ARCHTS·

FLOOR PLANS, LINCOLN HIGH SCHOOL, LINCOLN, NEB.
Berlinghof & Davis, Architects, Lincoln.

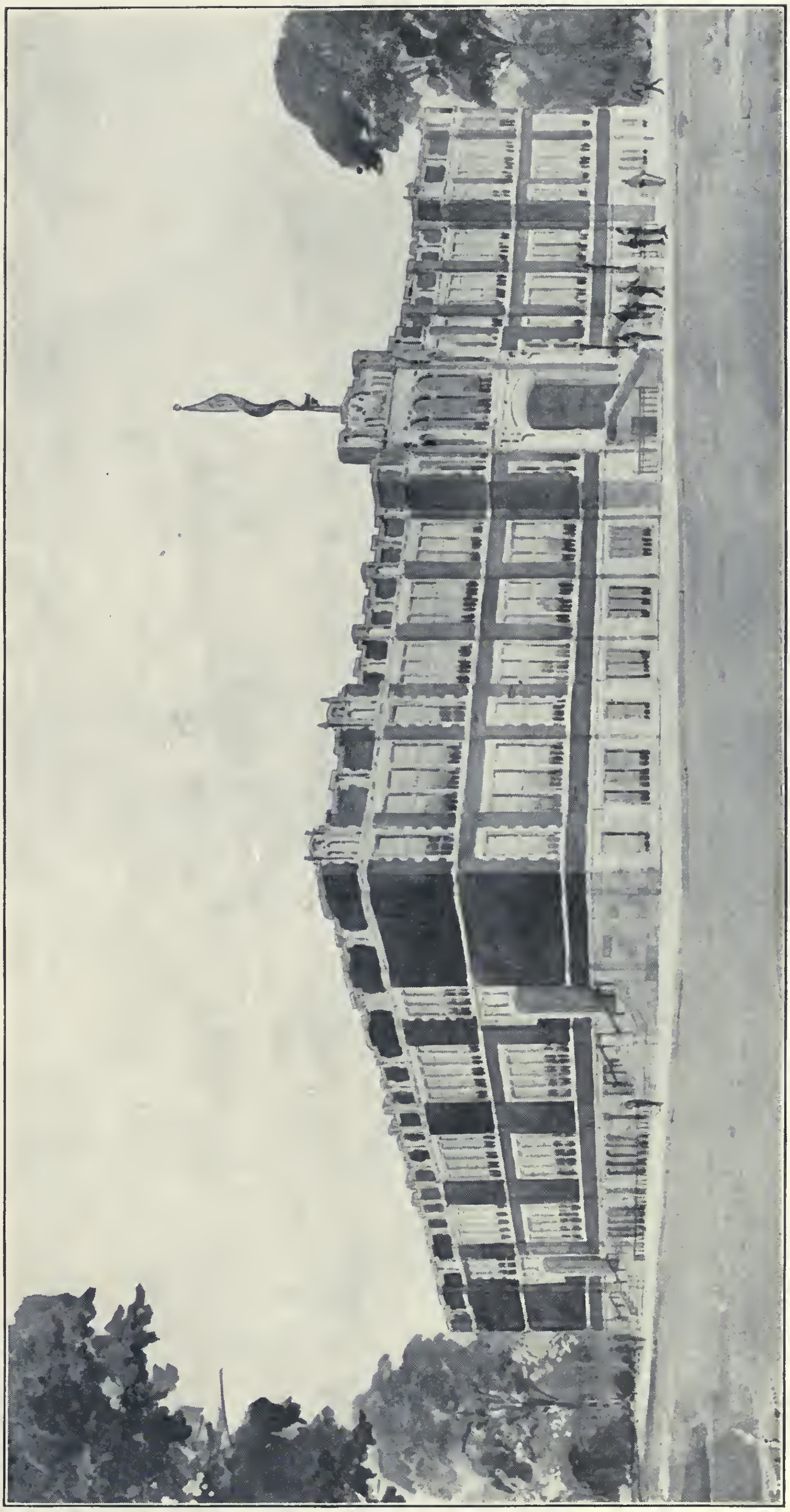

LECTURE·RM.
PHYSICS·LABORATORY
STUDY·ROOM
EL.·SCIENCE
EL.·SCIENCE
EL.·SCIENCE
CORRIDOR
STAGE
CORRIDOR
TOILET
AUDITORIUM
TOILET
CORRIDOR
CORRIDOR
CORRIDOR
VAULT
PUBLIC·SPACE
TEACHERS·RM.
TEACHERS
WORK·RM.
OFFICE
PRINCIPAL
•NEW HIGH SCHOOL•
•LINCOLN · · · NEBR•
•BERLINGHOF & DAVIS•ARCHTS•

FIRST·FLOOR·PLAN

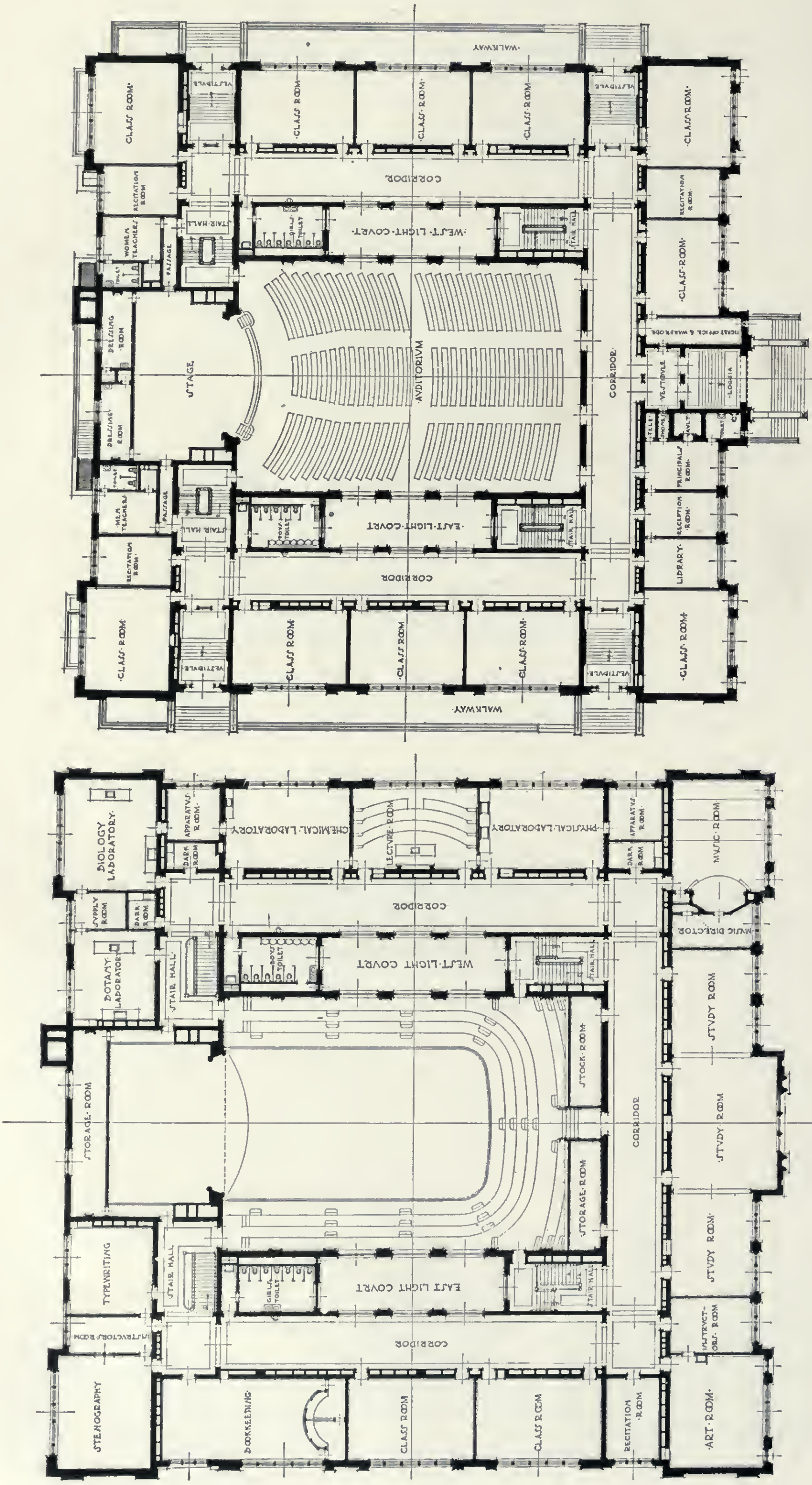

KITCHEN
LUNCH·ROOM
DOMESTIC·SCIENCE
VESTIBULE
CORRIDOR
VESTIBULE
SEWING
CORRIDOR
GIRLS·GYMNASIUM
PLUNGE
BOYS·GYMNASIUM
CORRIDOR
COMMERCE
COMMERCE
VESTIBULE
CORRIDOR
VESTIBULE
LAUNDRY
PRINTING
BOOK·ROOM
ASST. PRINCIPAL
STORES
VESTIBULE
•NEW·HIGH·SCHOOL•
•LINCOLN · · · NEBR•
BERLINGHOF & DAVIS·ARCHTS

GROUND·FLOOR·PLAN

FLOOR PLANS, LINCOLN HIGH SCHOOL, LINCOLN, NEB.



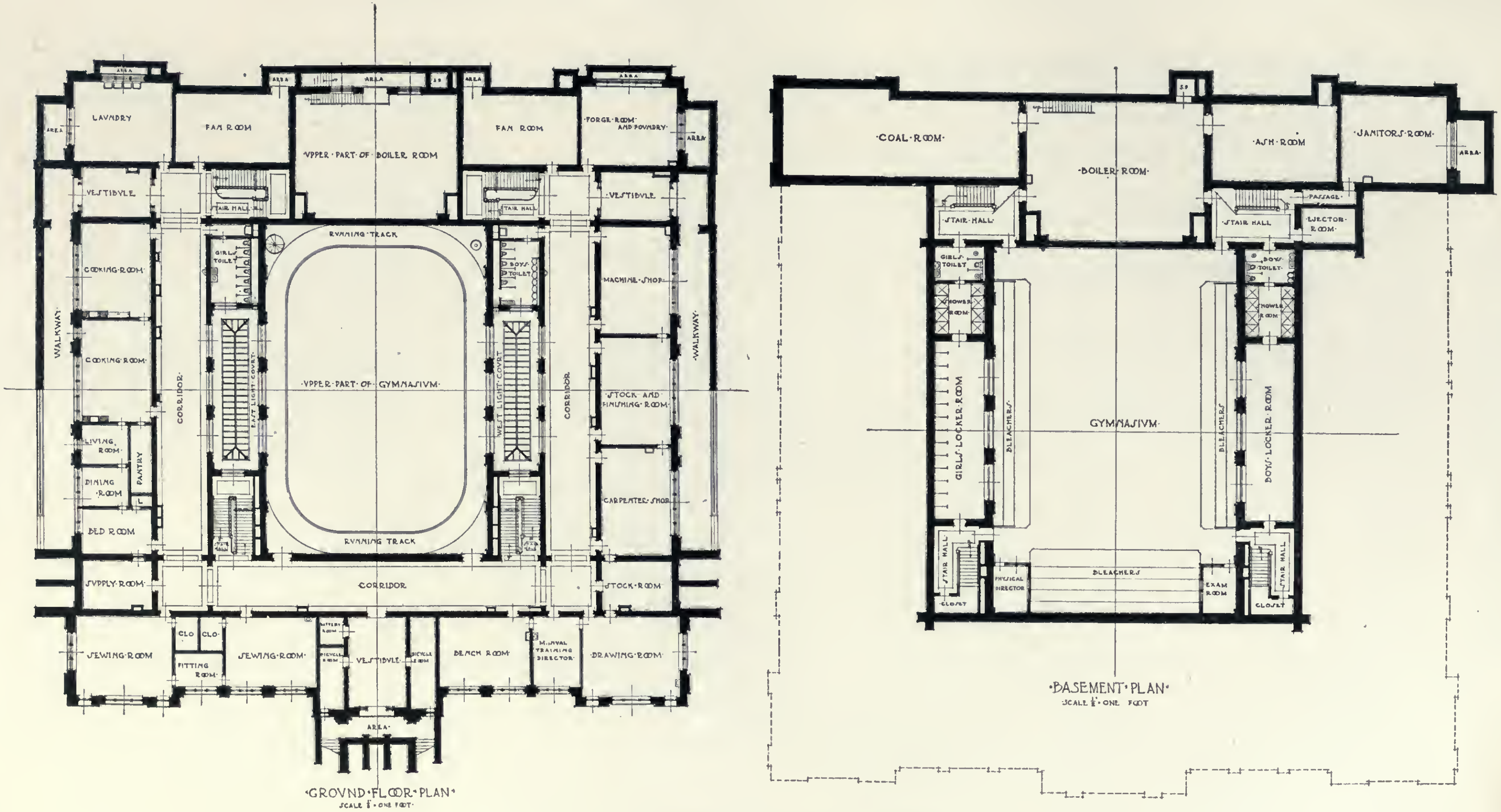
NEW HIGH SCHOOL, LEBANON, PA.
A. A. Richter, Architect, Reading, Pa.


WALKWAY
VESTIBULE
CLASS ROOM
RECITATION ROOM
WOMEN TEACHERS
TOILET
PASSAGE
STAIR HALL
GIRLS' TOILET
WEST LIGHT COURT
CORRIDOR
DRESSING ROOM
STAGE
AUDITORIUM
MEN TEACHERS
BOYS' TOILET
EAST LIGHT COURT
TICKET OFFICE & WARDROBE
LOGGIA
TELE. PHONE
VAULT
PRINCIPAL'S ROOM
RECEPTION ROOM
LIBRARY
BIOLOGY LABORATORY
APPARATUS ROOM
DARK ROOM
CHEMICAL LABORATORY
LECTURE ROOM
PHYSICAL LABORATORY
MUSIC ROOM
MUSIC DIRECTOR
SUPPLY ROOM
BOTANY LABORATORY
STORAGE ROOM
STOCK ROOM
STUDY ROOM
TYPEWRITING
INSTRUCTORS ROOM
STENOGRAPHY
BOOKKEEPING
ART ROOM

·FIRST·FLOOR·PLAN·
SCALE 1/16" = ONE FOOT

·SECOND·FLOOR·PLAN·
SCALE 1/16" = ONE FOOT

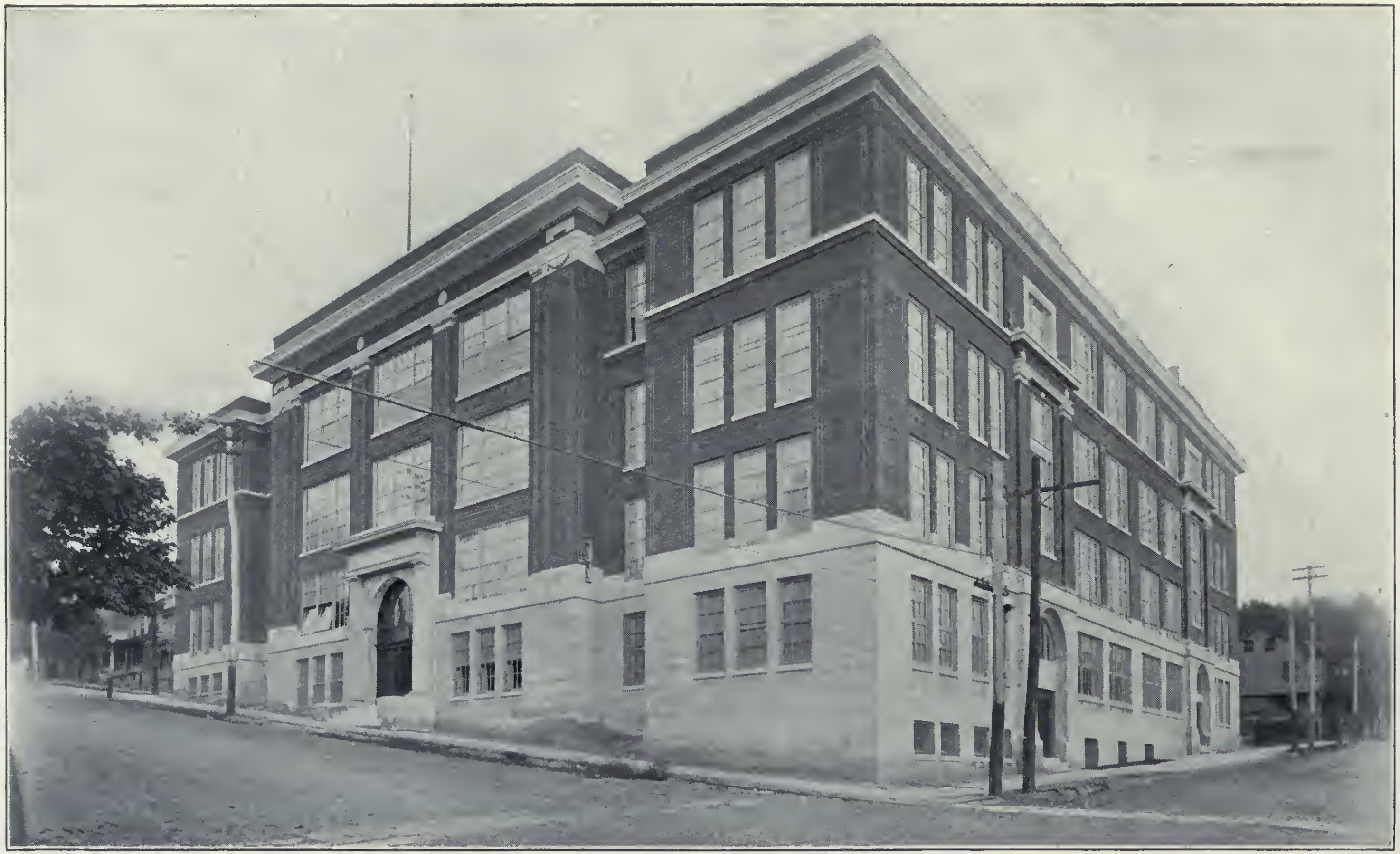
FLOOR PLANS, NEW HIGH SCHOOL, LEBANON, PA.
A. A. Richter, Architect, Reading, Pa.


LAVNDRY
FAN ROOM
VPPER·PART·OF·BOILER ROOM
FAN ROOM
·FORGE·ROOM· AND FOVNDRY·
AREA
VESTIBVLE
STAIR HALL
COOKING·ROOM·
COOKING·ROOM·
LIVING·ROOM·
DINING·ROOM
PANTRY
BED ROOM
SVPPLY·ROOM·
WALKWAY
CORRIDOR
GIRLS·TOILET
EAST LIGHT COVRT
RVNNING·TRACK
·VPPER·PART·OF·GYMNASIVM·
RVNNING TRACK
BOYS·TOILET
WEST LIGHT COVRT
MACHINE·SHOP·
STOCK AND FINISHING·ROOM·
CARPENTER·SHOP
STOCK·ROOM
SEWING·ROOM
CLO
FITTING ROOM
VESTIBVLE
BICYCLE ROOM
BENCH ROOM
MANVAL TRAINING DIRECTOR
DRAWING·ROOM·
·COAL·ROOM·
·BOILER·ROOM·
·ASH·ROOM
·JANITORS·ROOM·
PASSAGE
EJECTOR·ROOM·
SHOWER ROOM
GIRLS·LOCKER·ROOM
BLEACHERS
GYMNASIVM·
BOYS·LOCKER·ROOM
PHYSICAL DIRECTOR
EXAM ROOM
CLOSET

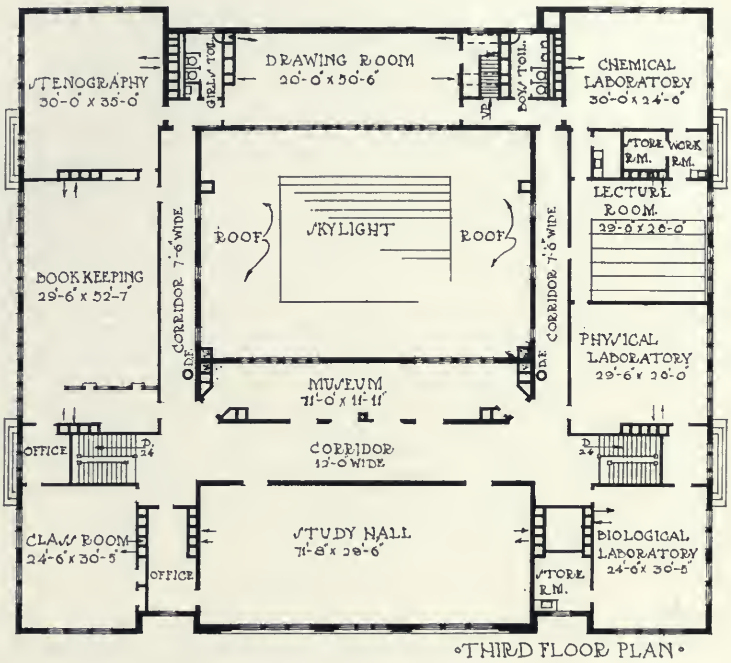
·GROVND·FLOOR·PLAN·
SCALE 1/8"·ONE FOOT·

·BASEMENT·PLAN·
SCALE 1/8"·ONE FOOT

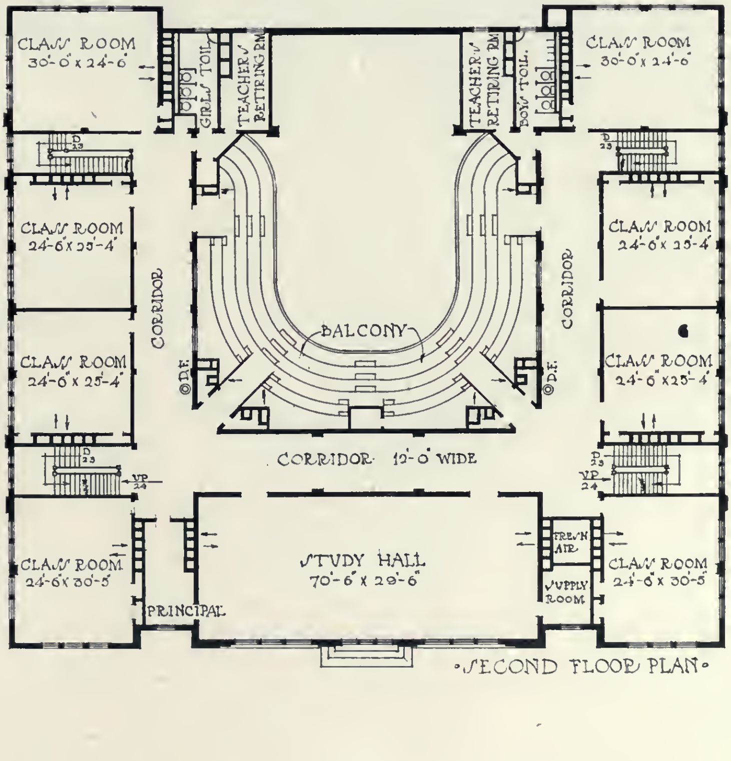
FLOOR PLANS, NEW HIGH SCHOOL, LEBANON, PA.
A. A. Richter, Architect, Reading, Pa.



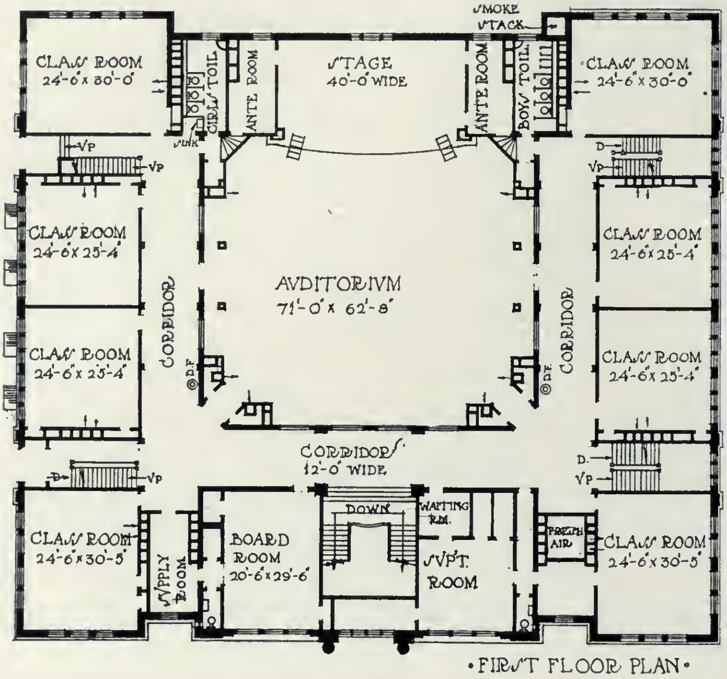
SHAMOKIN HIGH SCHOOL, SHAMOKIN, PA.
W. H. Lee, Architect, Shamokin.


STENOGRAPHY 30'-0" x 35'-0"
GIRLS TOIL.
DRAWING ROOM 20'-0" x 50'-6"
VP
BOYS TOIL.
CHEMICAL LABORATORY 30'-0" x 24'-0"
STORE RM.
WORK RM.
LECTURE ROOM 29'-0" x 20'-0"
BOOK KEEPING 29'-6" x 52'-7"
CORRIDOR 7'-6" WIDE
ROOF
SKYLIGHT
ROOF
CORRIDOR 7'-6" WIDE
D.F.
D.F.
PHYSICAL LABORATORY 29'-6" x 20'-0"
MUSEUM 71'-0" x 11'-11"
OFFICE
D 24
CORRIDOR 12'-0" WIDE
D 24
CLASS ROOM 24'-6" x 30'-5"
OFFICE
STUDY HALL 71'-8" x 29'-6"
STORE RM.
BIOLOGICAL LABORATORY 24'-6" x 30'-5"
•THIRD FLOOR PLAN•

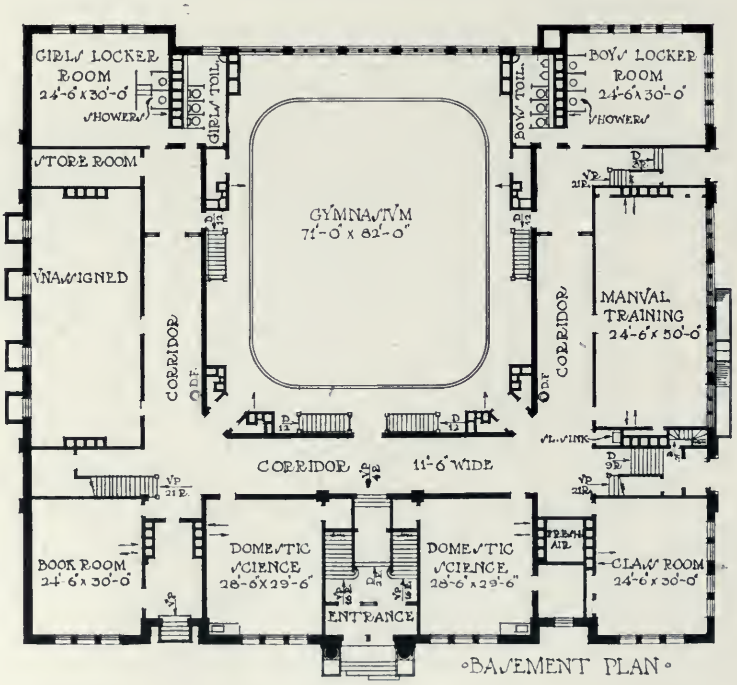
PLAN OF THIRD FLOOR,
SHAMOKIN HIGH SCHOOL.


CLASS ROOM 30'-0" x 24'-6"
GIRLS TOIL.
TEACHERS RETIRING RM.
TEACHERS RETIRING RM.
BOYS TOIL.
CLASS ROOM 30'-0" x 24'-6"
D 23
D 23
CLASS ROOM 24'-6" x 25'-4"
CLASS ROOM 24'-6" x 25'-4"
CORRIDOR
BALCONY
CORRIDOR
CLASS ROOM 24'-0" x 25'-4"
CLASS ROOM 24'-6" x 25'-4"
D.F.
D.F.
D 23
VP 24
CORRIDOR 12'-0" WIDE
D 23
VP 24
CLASS ROOM 24'-6" x 30'-5"
STUDY HALL 70'-6" x 29'-6"
FRESH AIR
SUPPLY ROOM
CLASS ROOM 24'-0" x 30'-5"
PRINCIPAL
•SECOND FLOOR PLAN•

PLAN OF SECOND FLOOR,
SHAMOKIN HIGH SCHOOL.

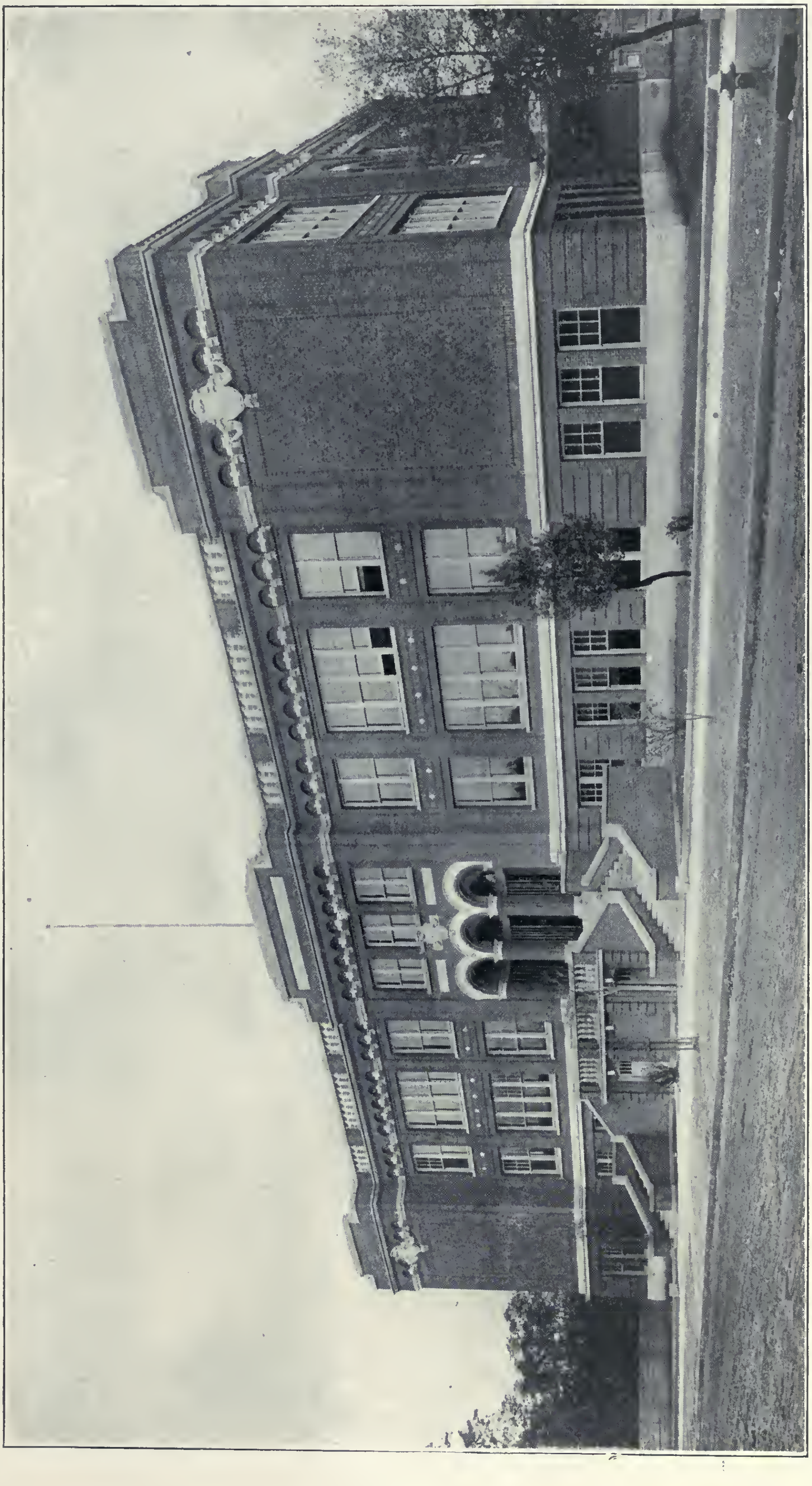

SMOKE STACK
CLASS ROOM 24'-6" x 30'-0"
GIRLS TOIL
ANTE ROOM
STAGE 40'-0" WIDE
ANTE ROOM
BOYS TOIL
CLASS ROOM 24'-6" x 30'-0"
SINK
VP
D
CLASS ROOM 24'-6" x 25'-4"
CLASS ROOM 24'-6" x 25'-4"
CORRIDOR
AUDITORIUM 71'-0" x 62'-8"
CORRIDOR
CLASS ROOM 24'-6" x 25'-4"
CLASS ROOM 24'-6" x 25'-4"
D.F.
CORRIDORS 12'-0" WIDE
CLASS ROOM 24'-6" x 30'-5"
SUPPLY ROOM
BOARD ROOM 20'-6" x 29'-6"
DOWN
WAITING RM.
SUPT. ROOM
FRESH AIR
CLASS ROOM 24'-6" x 30'-5"
•FIRST FLOOR PLAN•

PLAN OF FIRST FLOOR,
SHAMOKIN HIGH SCHOOL.

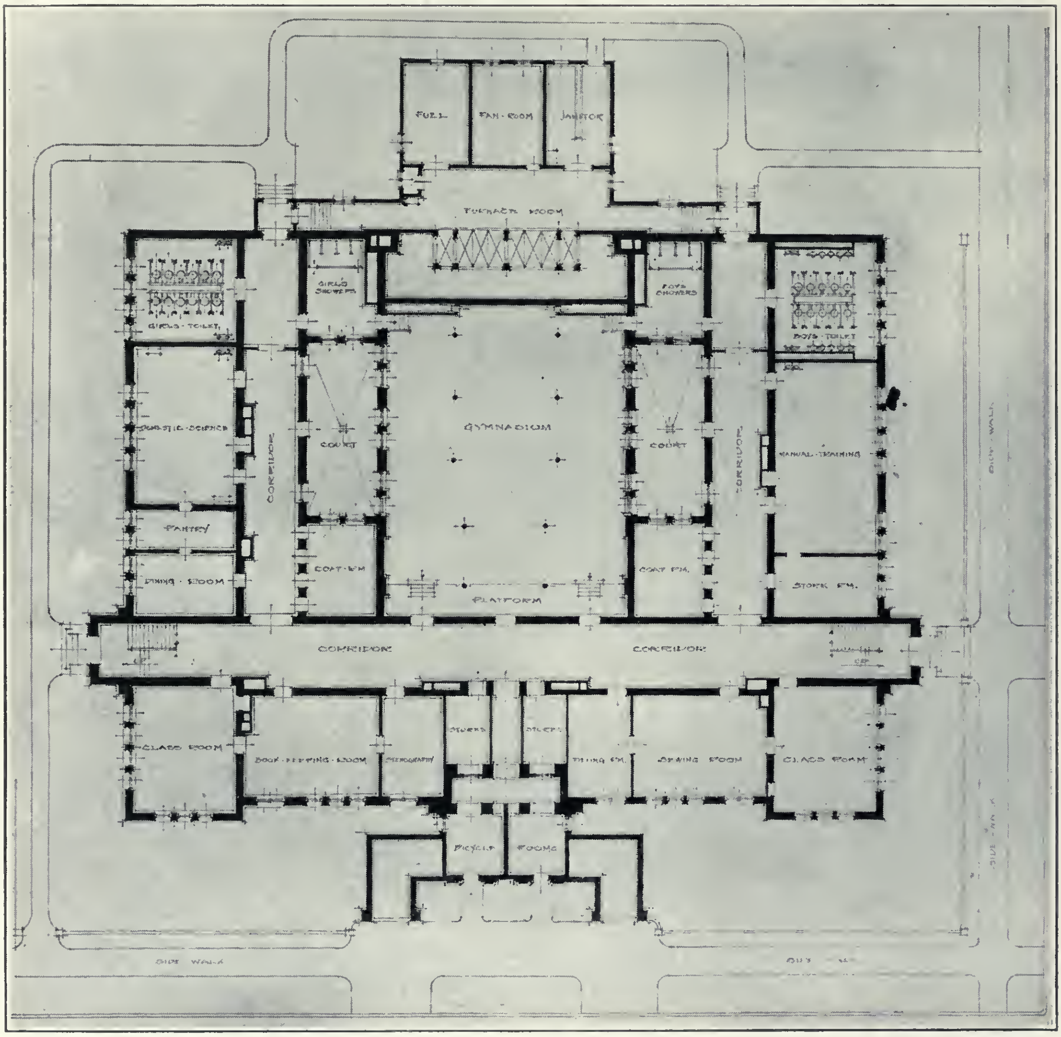

GIRLS LOCKER ROOM 24'-6" x 30'-0"
SHOWERS
GIRLS TOIL
BOYS TOIL
BOYS LOCKER ROOM 24'-6" x 30'-0"
SHOWERS
STORE ROOM
UNASSIGNED
CORRIDOR
GYMNASIUM 71'-0" x 82'-0"
CORRIDOR
MANUAL TRAINING 24'-6" x 50'-0"
D.F.
SL. SINK
VP
D
CORRIDOR 11'-6" WIDE
BOOK ROOM 24'-6" x 30'-0"
DOMESTIC SCIENCE 28'-6" x 29'-6"
DOMESTIC SCIENCE 28'-6" x 29'-6"
FRESH AIR
CLASS ROOM 24'-6" x 30'-0"
ENTRANCE
•BASEMENT PLAN•

PLAN OF BASEMENT,
SHAMOKIN HIGH SCHOOL.

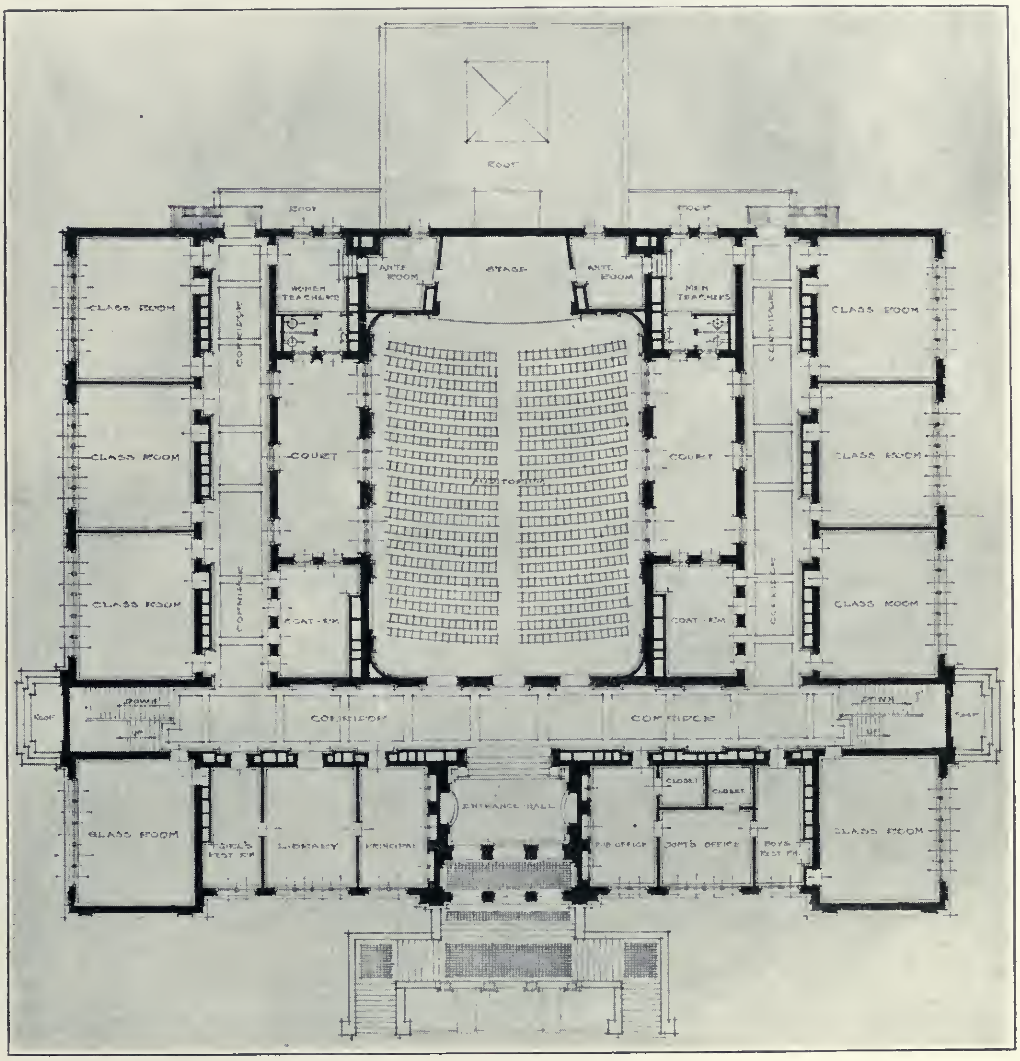
W. H. Lee, Architect,
Shamokin, Pa.



NEW HIGH SCHOOL, COLUMBIA, S. C.
Urquhart & Johnson, Architects, Columbia, S. C.

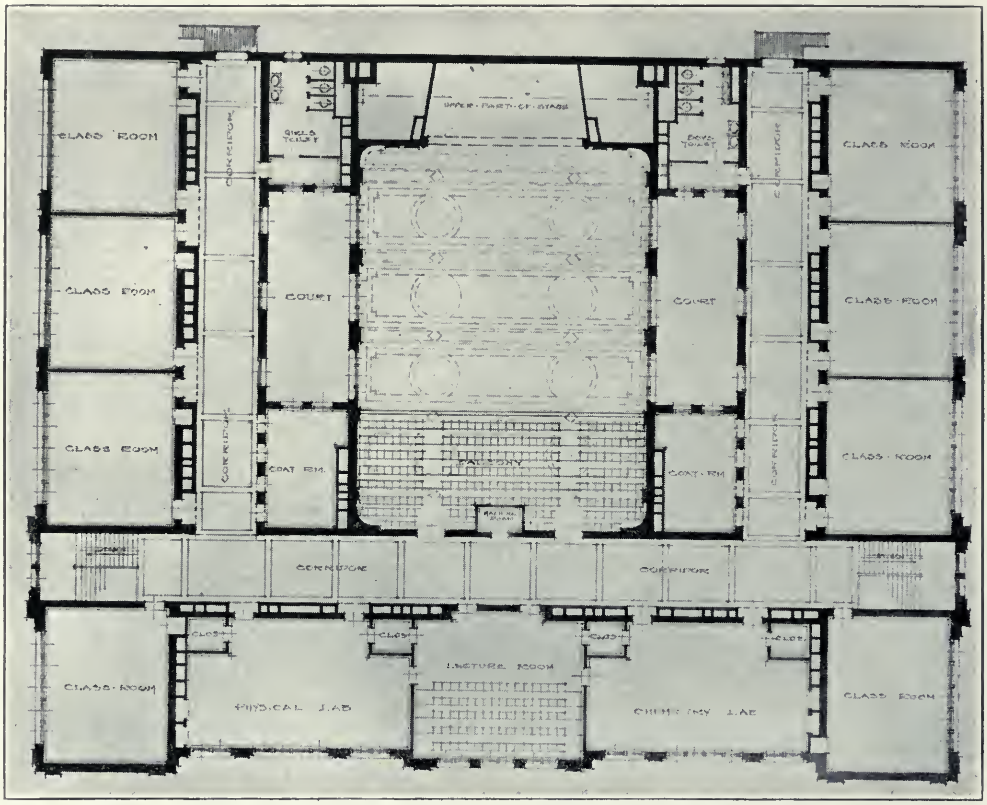

FUEL
FAN-ROOM
JANITOR
FURNACE ROOM
GIRLS SHOWERS
BOYS SHOWERS
GIRLS-TOILET
BOYS-TOILET
DOMESTIC-SCIENCE
CORRIDOR
COURT
GYMNASIUM
COURT
CORRIDOR
MANUAL-TRAINING
PANTRY
DINING-ROOM
COAT-RM
PLATFORM
COAT RM.
STORE RM.
CORRIDOR
CORRIDOR
CLASS ROOM
BOOK-KEEPING-ROOM
STENOGRAPHY
STORES
STORES
TYPING RM.
SEWING ROOM
CLASS ROOM
BICYCLE ROOMS
SIDE WALK
SIDE WALK
SIDE WALK
SIDE WALK

GROUND FLOOR PLAN, NEW HIGH SCHOOL, COLUMBIA, S. C.
Urquhart & Johnson, Architects, Columbia, S. C.

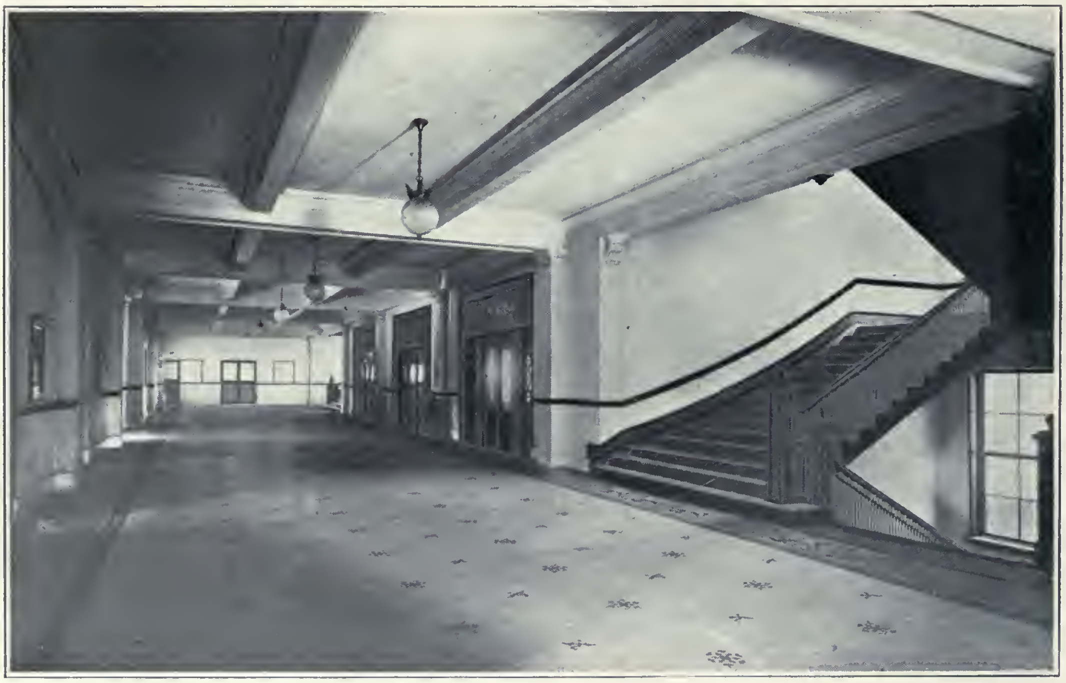

ROOF
ROOF
ROOF
STAGE
ANTE ROOM
ANTE ROOM
WOMEN TEACHERS
MEN TEACHERS
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CORRIDOR
CORRIDOR
CORRIDOR
CORRIDOR
COURT
COURT
AUDITORIUM
COAT RM
COAT RM
DOWN
UP
DOWN
UP
ROOF
ROOF
CORRIDOR
CORRIDOR
ENTRANCE HALL
CLOSET
CLOSET
CLASS ROOM
GIRLS REST RM
LIBRARY
PRINCIPAL
B'D OFFICE
SUPT'S OFFICE
BOYS REST RM
CLASS ROOM

FIRST FLOOR PLAN, NEW HIGH SCHOOL, COLUMBIA, S. C.

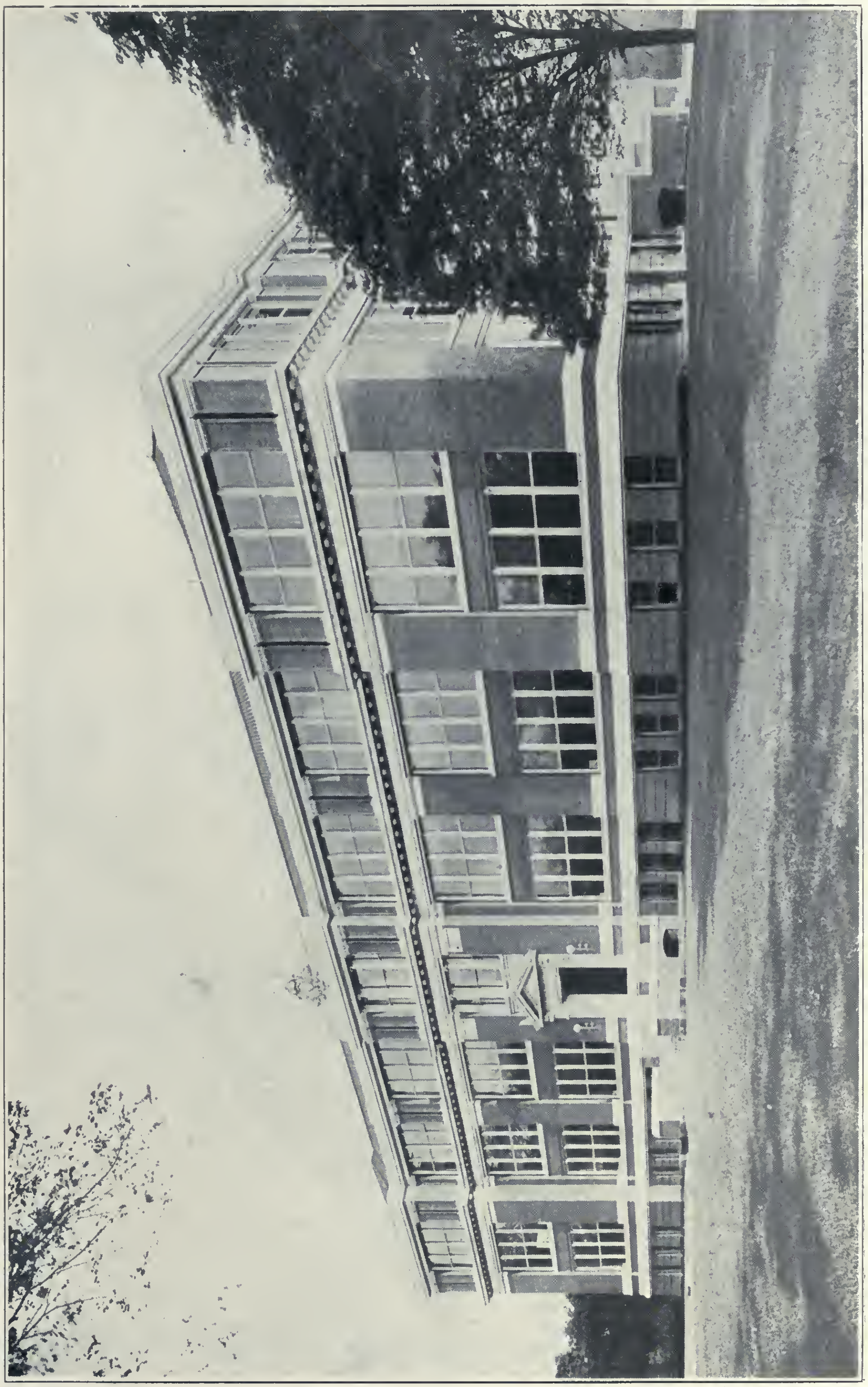
Urquhart & Johnson, Architects, Columbia, S. C.


CLASS ROOM
CORRIDOR
GIRLS TOILET
UPPER PART OF STAGE
BOYS TOILET
CORRIDOR
CLASS ROOM
CLASS ROOM
COURT
COURT
CLASS ROOM
CLASS ROOM
CORRIDOR
COAT RM.
GALLERY
COAT RM.
CORRIDOR
CLASS ROOM
CORRIDOR
CORRIDOR
CLOS.
CLOS.
CLOS.
CLOS.
LECTURE ROOM
CLASS ROOM
PHYSICAL LAB
CHEMISTRY LAB
CLASS ROOM

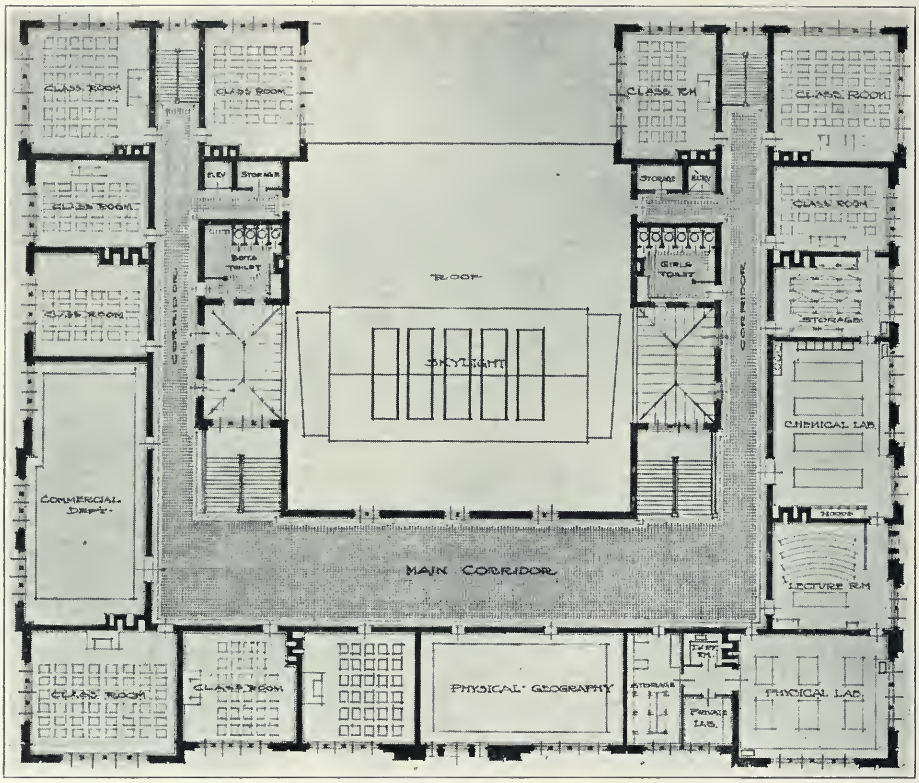
SECOND FLOOR PLAN, NEW HIGH SCHOOL, COLUMBIA, S. C.



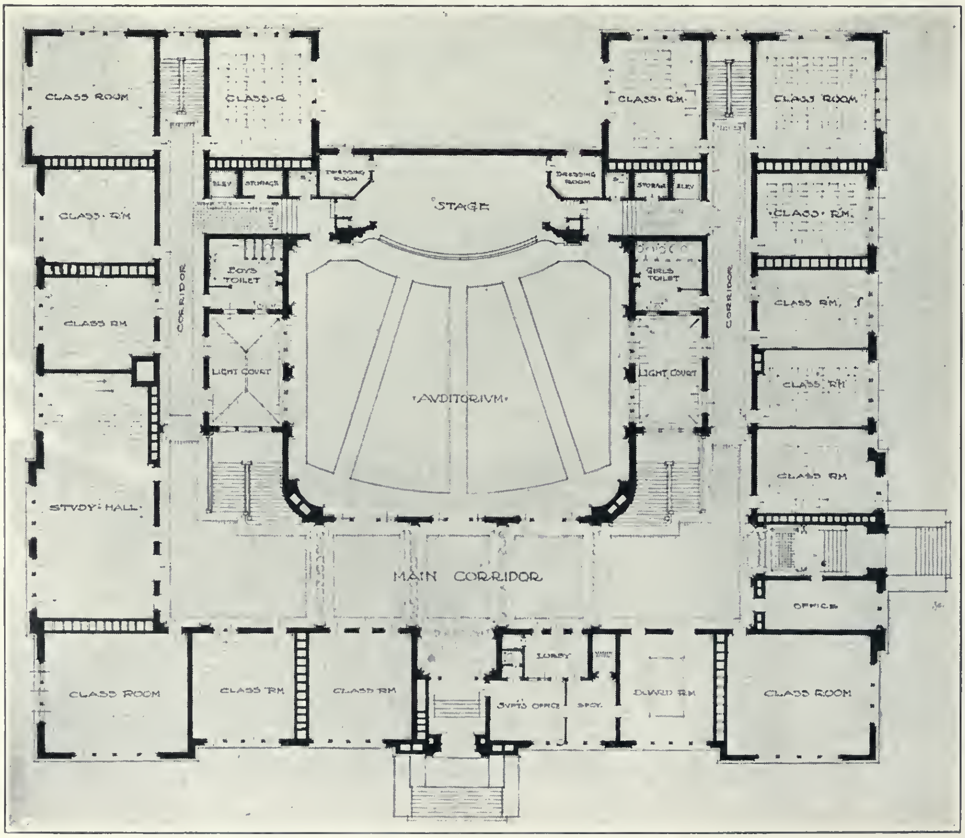
MAIN CORRIDOR, HIGH SCHOOL, NEW CASTLE, PA.



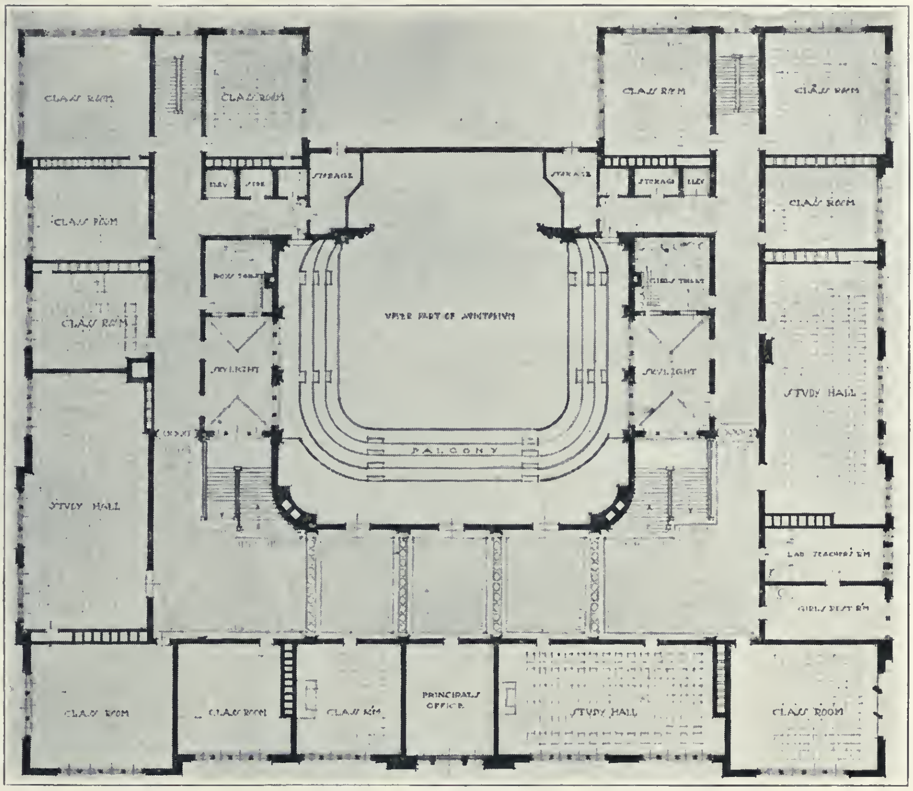
HIGH SCHOOL, NEW CASTLE, PA.
W. G. Eckles, Architect, New Castle.


CLASS ROOM
CLASS ROOM
CLASS RM
CLASS ROOM
ELEV
STORAGE
STORAGE
ELEV
CLASS ROOM
CLASS ROOM
BOYS TOILET
ROOF
GIRLS TOILET
STORAGE
CORRIDOR
SKYLIGHT
CORRIDOR
CHEMICAL LAB.
COMMERCIAL DEPT.
HOODS
MAIN CORRIDOR
LECTURE RM
CLASS ROOM
CLASS ROOM
PHYSICAL GEOGRAPHY
STORAGE
PRIVATE LAB.
PHYSICAL LAB.

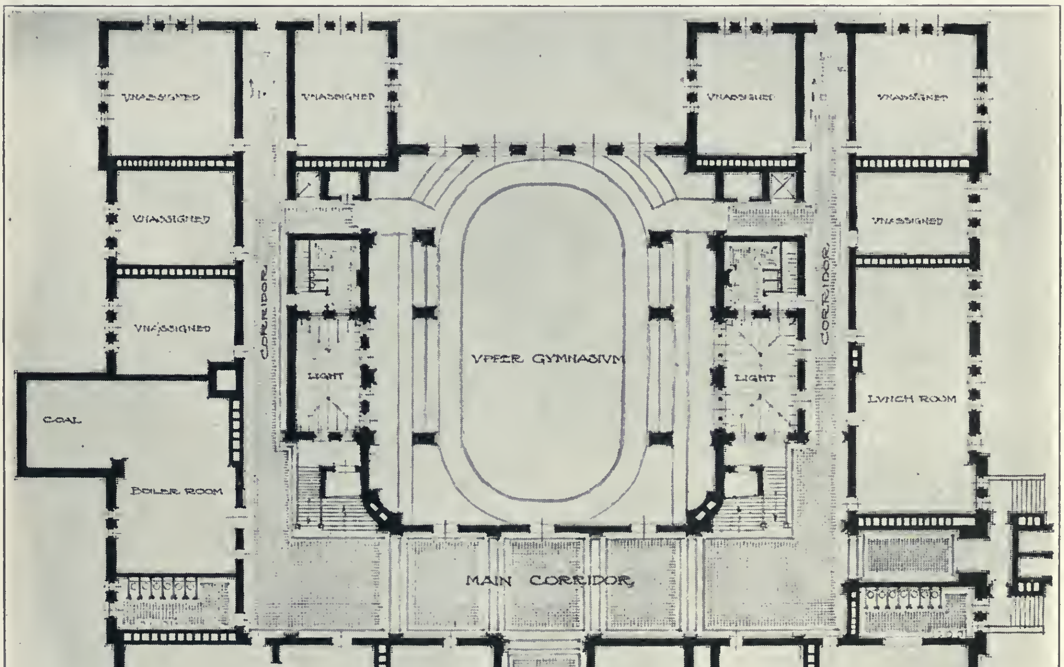
THIRD FLOOR PLAN, HIGH SCHOOL, NEW CASTLE, PA.


CLASS ROOM
CLASS R
CLASS RM
CLASS ROOM
DRESSING ROOM
DRESSING ROOM
ELEV
STORAGE
STORAGE
ELEV
STAGE
CLASS RM
CLASS RM
BOYS TOILET
GIRLS TOILET
CORRIDOR
CORRIDOR
CLASS RM
CLASS RM
LIGHT COURT
LIGHT COURT
AUDITORIUM
CLASS RM
STUDY HALL
CLASS RM
MAIN CORRIDOR
OFFICE
LOBBY
CLASS ROOM
CLASS RM
CLASS RM
SUPT'S OFFICE
SECY.
BOARD RM
CLASS ROOM

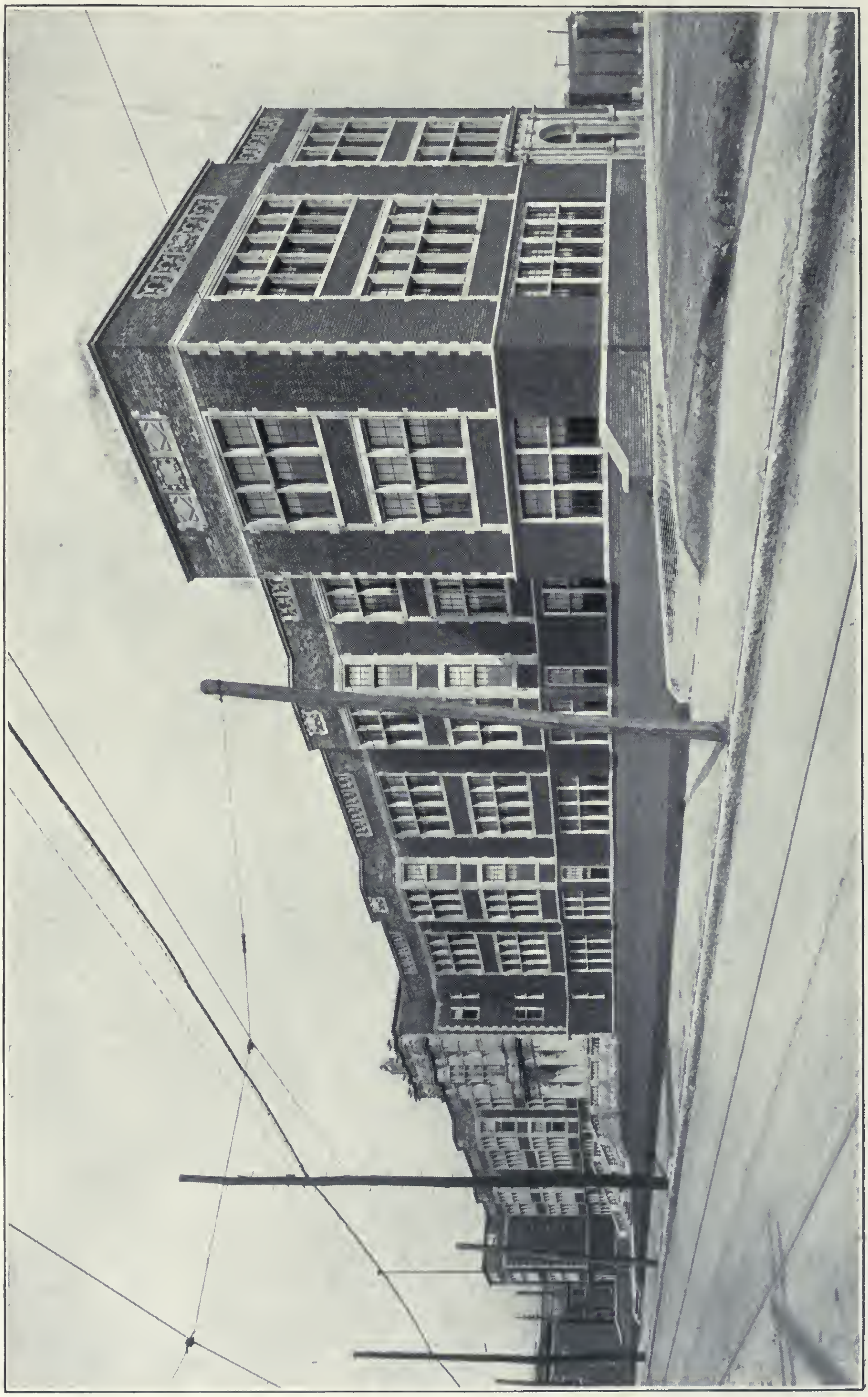
FIRST FLOOR PLAN, HIGH SCHOOL, NEW CASTLE, PA.


CLASS RM
CLASS ROOM
CLASS RM
CLASS ROOM
STORAGE
STORAGE
ELEV
STORE
STORAGE
ELEV
CLASS ROOM
CLASS ROOM
CLASS ROOM
BOYS TOILET
GIRLS TOILET
VPPER PART OF AVDITORIVM
SKYLIGHT
SKYLIGHT
STVDY HALL
STVDY HALL
BALCONY
LAD TEACHERS RM
GIRLS REST RM
CLASS ROOM
CLASS ROOM
CLASS RM
PRINCIPALS OFFICE
STVDY HALL
CLASS ROOM

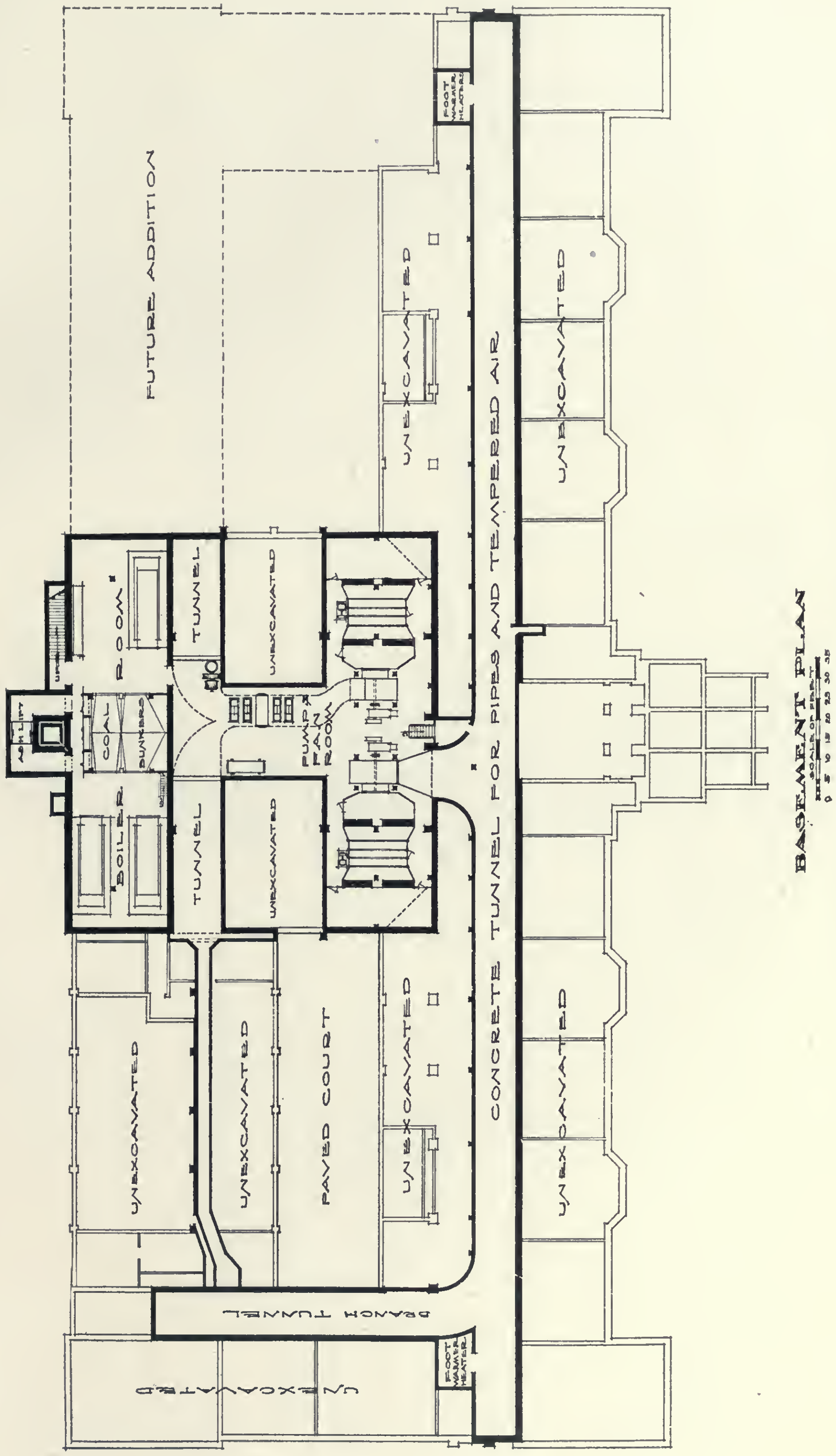
SECOND FLOOR PLAN, HIGH SCHOOL, NEW CASTLE, PA.


VNASSIGNED
VNASSIGNED
VNASSIGNED
VNASSIGNED
VNASSIGNED
VNASSIGNED
VNASSIGNED
CORRIDOR
CORRIDOR
VPPER GYMNASIVM
LIGHT
LIGHT
LVNCH ROOM
COAL
BOILER ROOM
MAIN CORRIDOR
LOCKER ROOM
FRESH AIR
FRESH AIR
LOCKERS
LOCKER ROOM

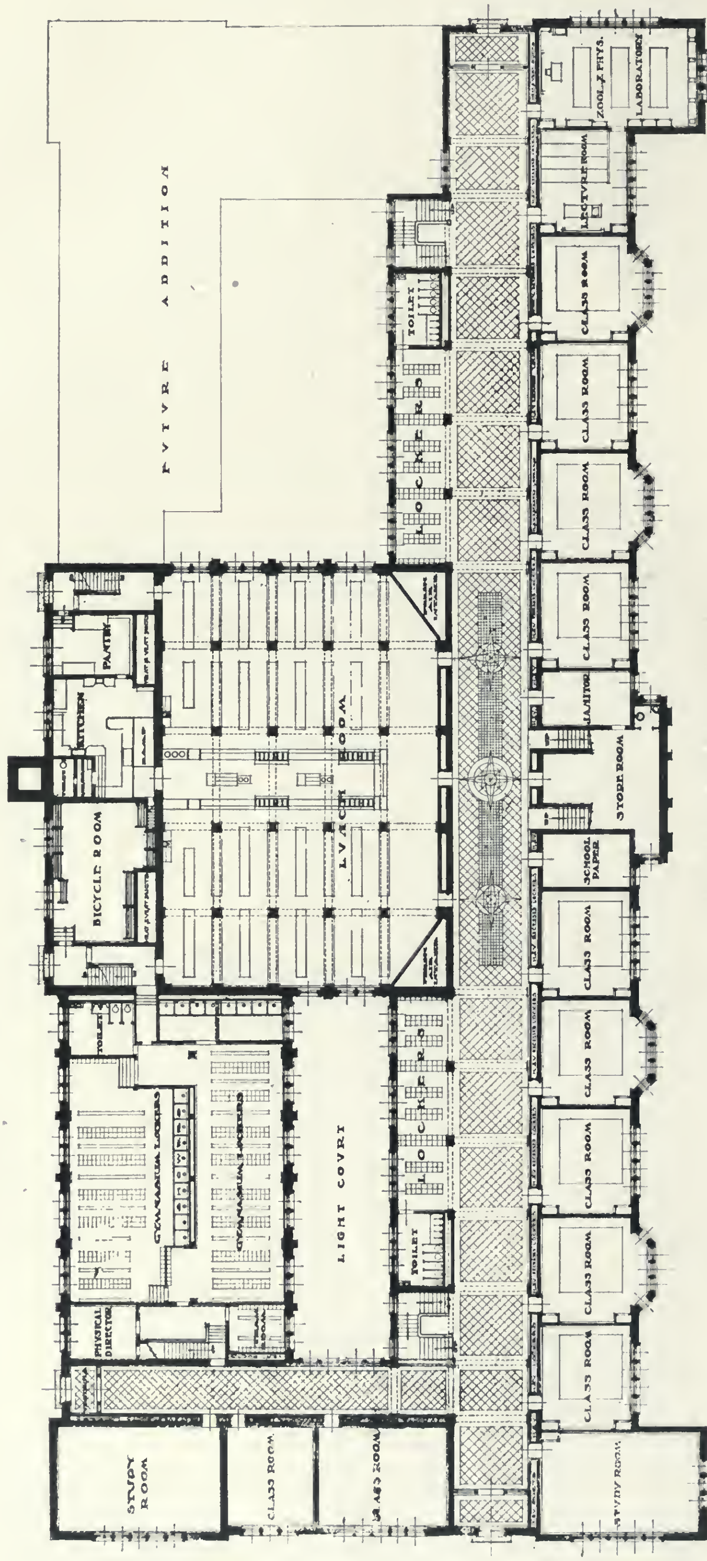
BASEMENT PLAN, HIGH SCHOOL, NEW CASTLE, PA.



BOYS' HIGH SCHOOL, LOUISVILLE, KY.
J. Earl Henry, Architect of the Board of Education, Louisville.


FUTURE ADDITION
UNEXCAVATED
UNEXCAVATED
UNEXCAVATED
UNEXCAVATED
UNEXCAVATED
UNEXCAVATED
UNEXCAVATED
UNEXCAVATED
UNEXCAVATED
FOOT WARMER HEATER
FOOT WARMER HEATER
CONCRETE TUNNEL FOR PIPES AND TEMPERED AIR
TUNNEL
TUNNEL
COAL ROOM
BOILER ROOM
COAL BUNKERS
ASH LIFT
UP
PUMP & FAN ROOM
PAVED COURT
BRANCH TUNNEL
BASEMENT PLAN
SCALE OF FEET
0 5 10 15 20 25 30 35

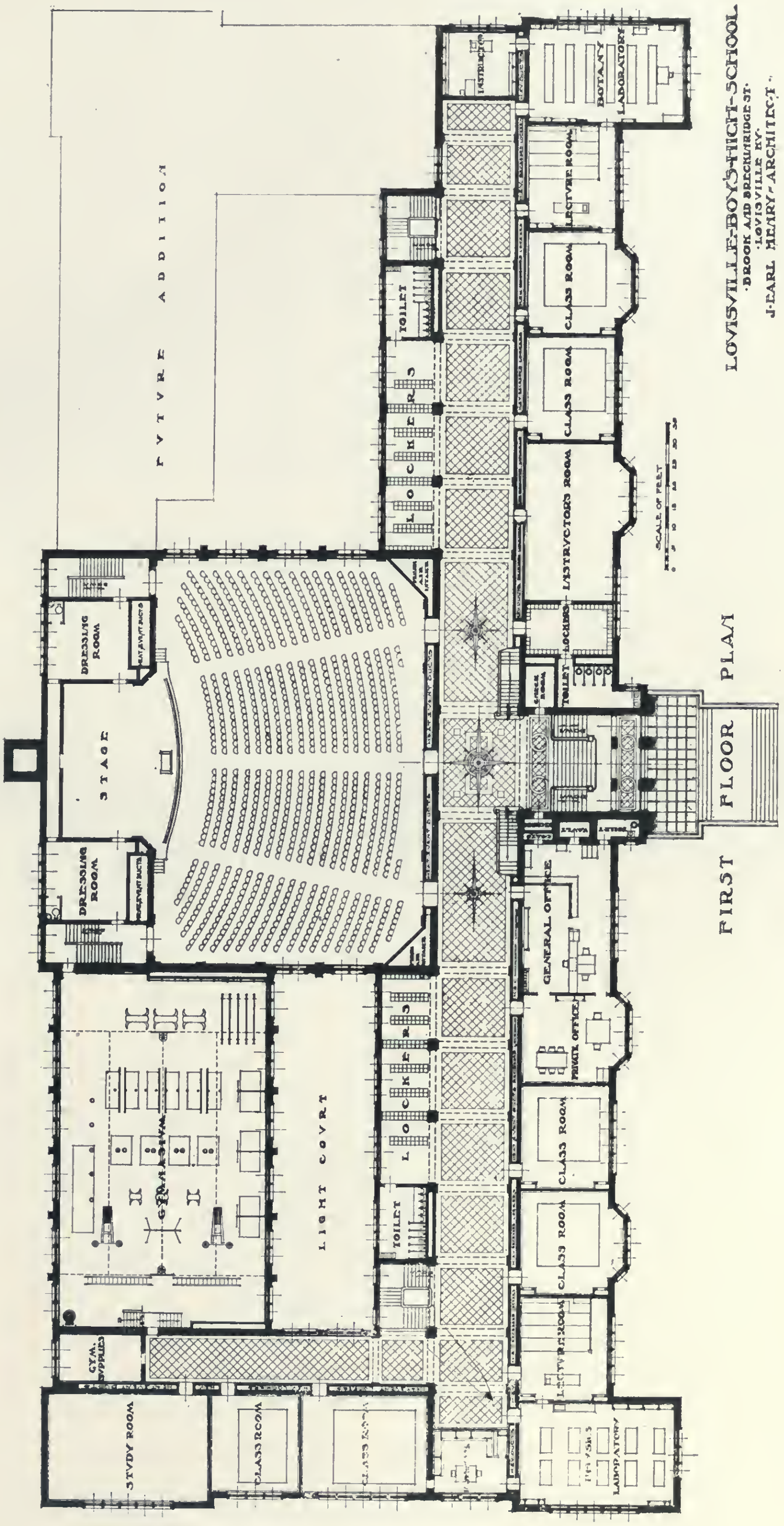
BASEMENT PLAN, BOYS' HIGH SCHOOL, LOUISVILLE, KY.

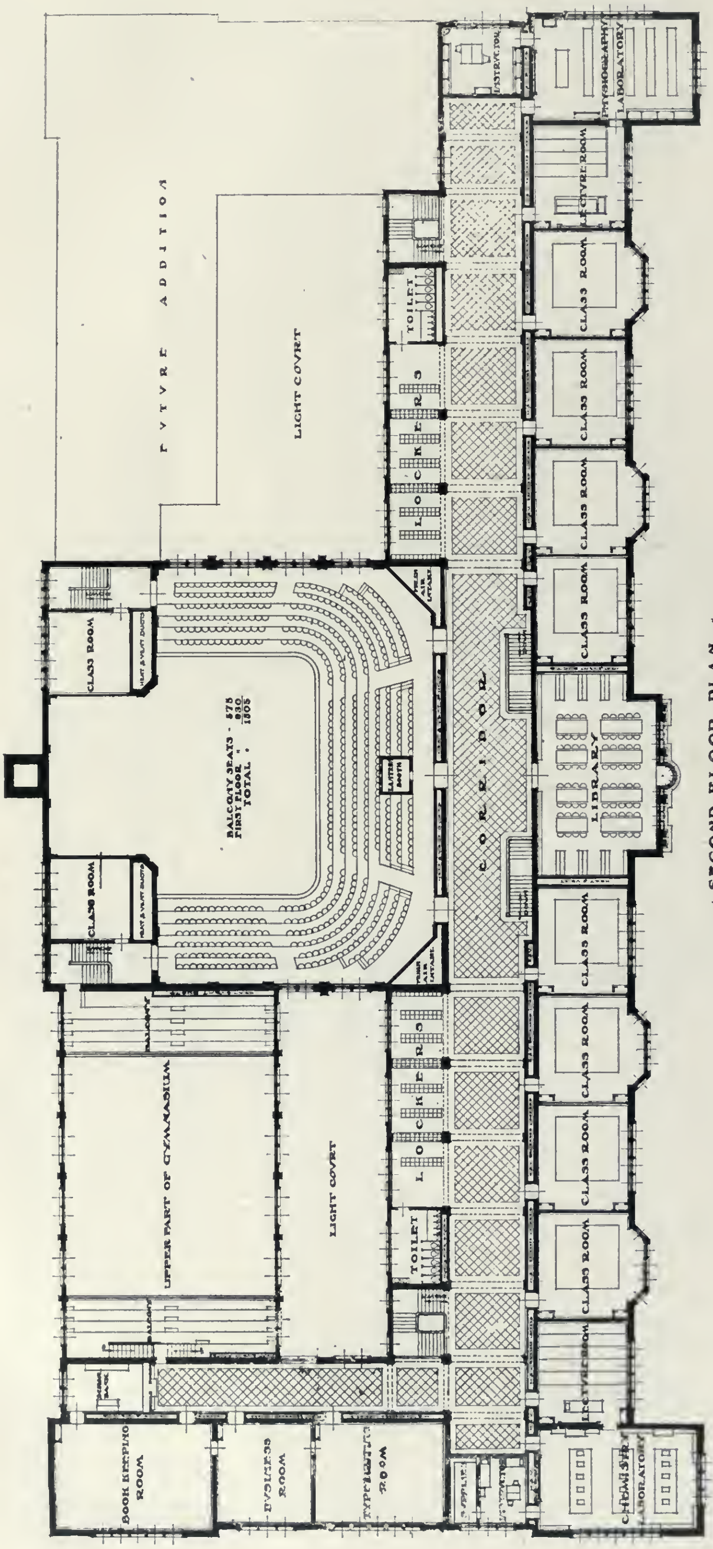

FUTURE ADDITION
ZOOL. & PHYS. LABORATORY
LECTURE ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
JANITOR
STORE ROOM
SCHOOL PAPER
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
STUDY ROOM
TOILET
LOCKERS
LOCKERS
TOILET
PANTRY
KITCHEN
BICYCLE ROOM
LUNCH ROOM
TOILET
GYMNASIUM LOCKERS
GYMNASIUM LOCKERS
LIGHT COURT
PHYSICAL DIRECTOR
STUDY ROOM
CLASS ROOM
CLASS ROOM

GROUND FLOOR PLAN

SCALE OF FEET

BOYS' HIGH SCHOOL, LOUISVILLE, KY.

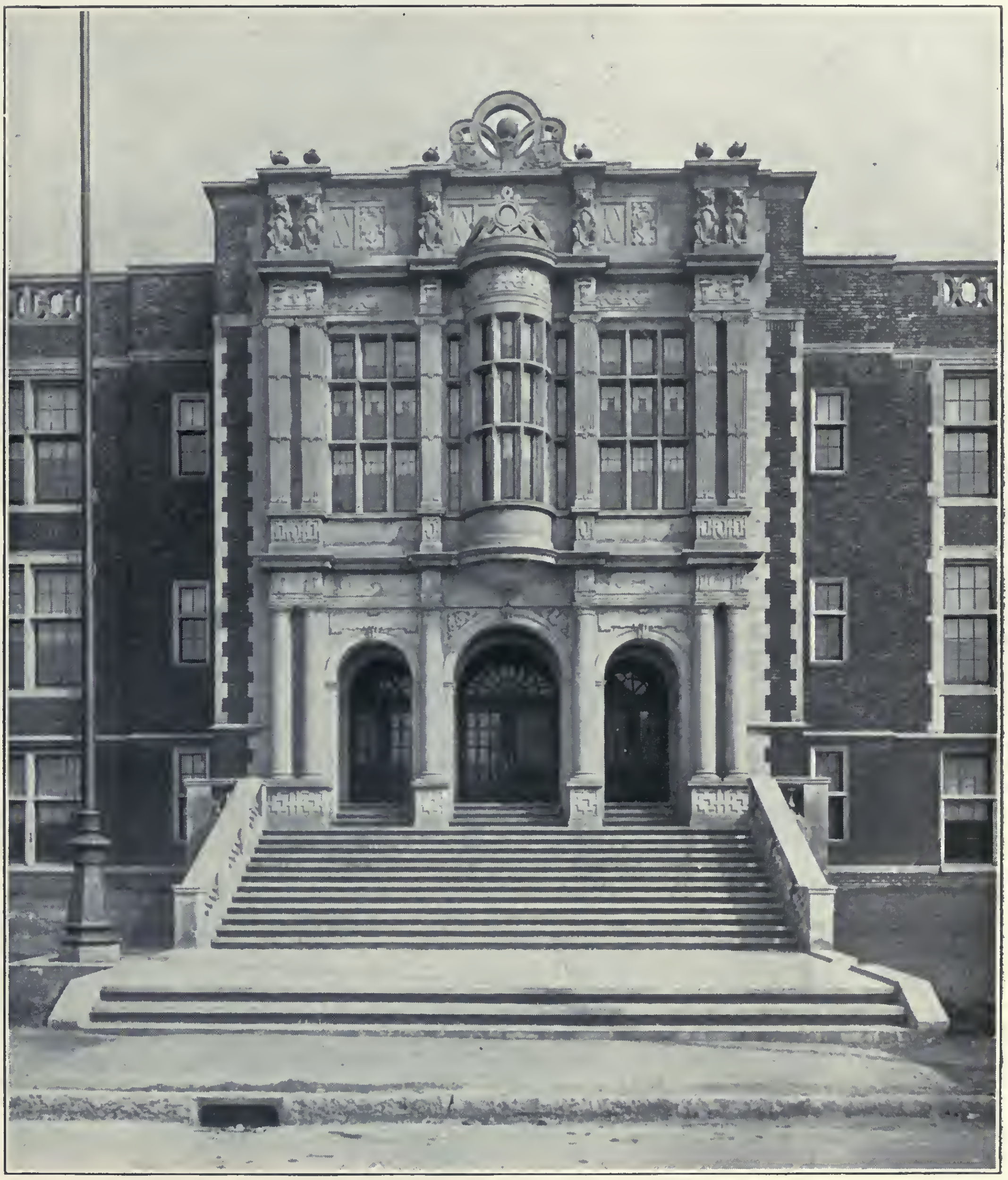

LOUISVILLE-BOYS-HIGH-SCHOOL
·BROOK AND BRECKINRIDGE ST·
·LOUISVILLE KY·
J·EARL HENRY·ARCHITECT·
FIRST FLOOR PLAN
SCALE OF FEET
FUTURE ADDITION
INSTRUCTOR
BOTANY LABORATORY
LECTURE ROOM
CLASS ROOM
CLASS ROOM
INSTRUCTORS ROOM
LOCKERS
TOILET
TOILET
LOCKERS
DRESSING ROOM
STAGE
DRESSING ROOM
GENERAL OFFICE
PRIVATE OFFICE
CLASS ROOM
CLASS ROOM
LECTURE ROOM
PHYSICS LABORATORY
LOCKERS
TOILET
GYMNASIUM
LIGHT COURT
GYM. SUPPLIES
STUDY ROOM
CLASS ROOM
CLASS ROOM


FUTURE ADDITION
LIGHT COURT
TOILET
LOCKERS
CORRIDOR
CLASS ROOM
LECTURE ROOM
PHYSIOGRAPHY LABORATORY
INSTRUCTOR
LIBRARY
BALCONY SEATS - 575
FIRST FLOOR " 930
TOTAL : 1505
FRESH AIR INTAKE
LANTERN BOOTH
HEAT & VENT DUCTS
UPPER PART OF GYMNASIUM
BALCONY
LIGHT COURT
CHEMISTRY LABORATORY
SUPPLIES
BOOK KEEPING ROOM
BUSINESS ROOM
TYPEWRITING ROOM

~ SECOND FLOOR PLAN ~

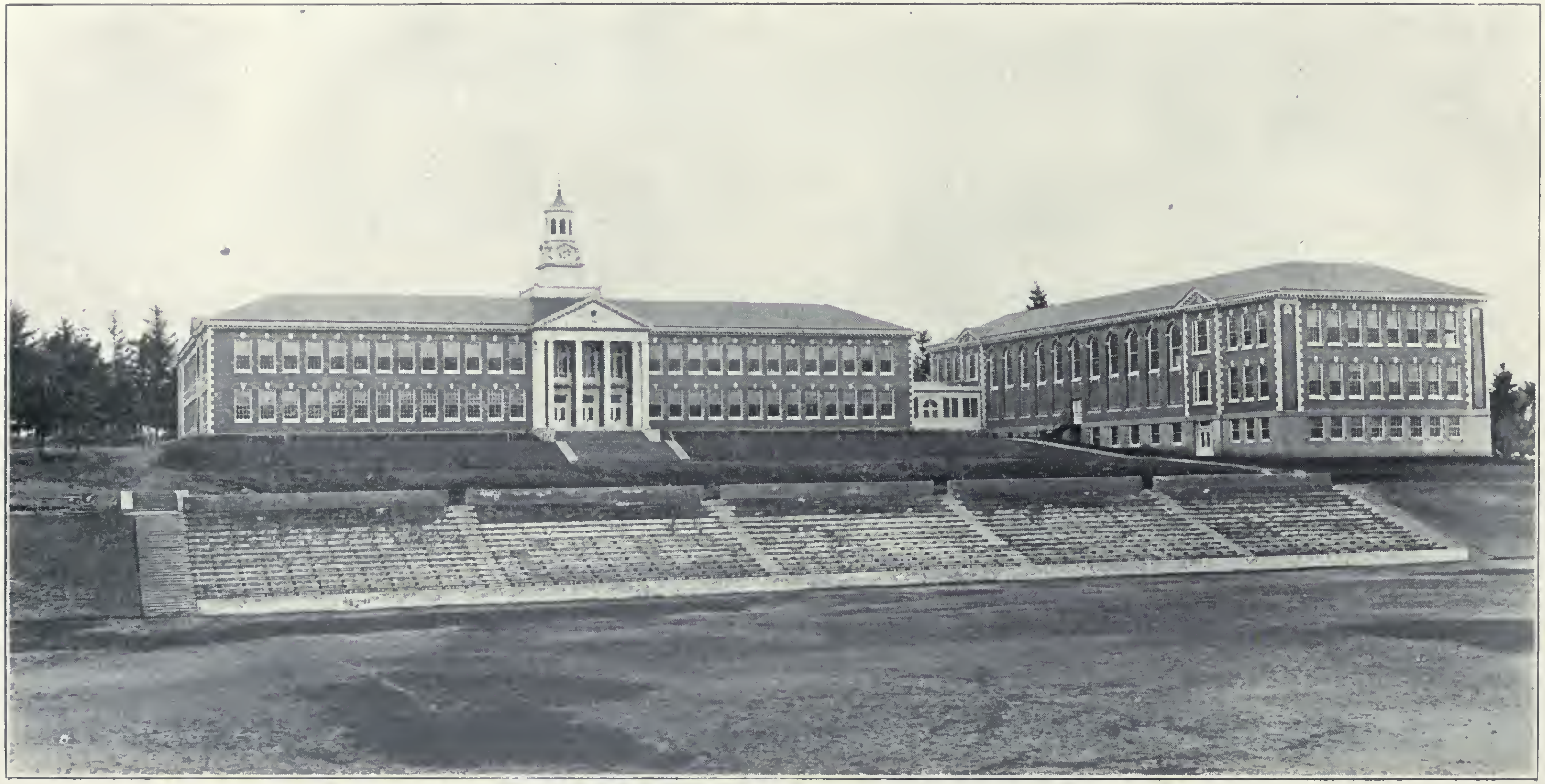
BOYS' HIGH SCHOOL, LOUISVILLE, KY.

J. Earl Henry, Architect, Board of Education, Louisville.



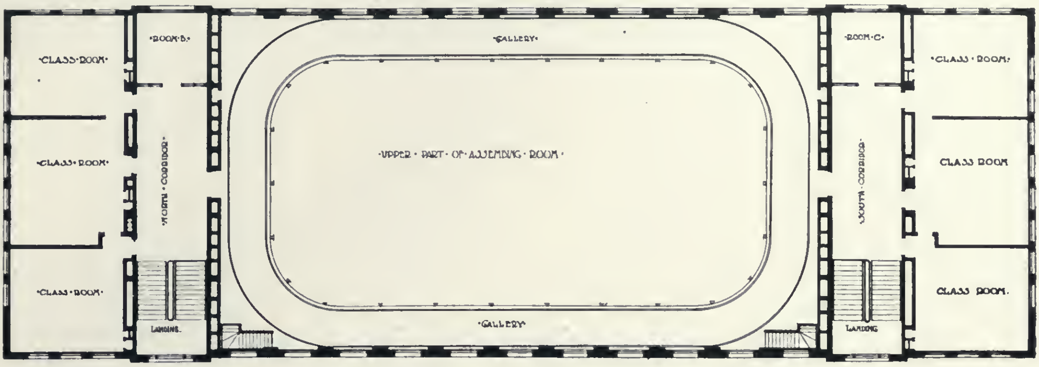
DETAIL OF MAIN ENTRANCE, BOYS' HIGH SCHOOL, LOUISVILLE, KY.

J. Earl Henry, Architect, Board of Education, Louisville.

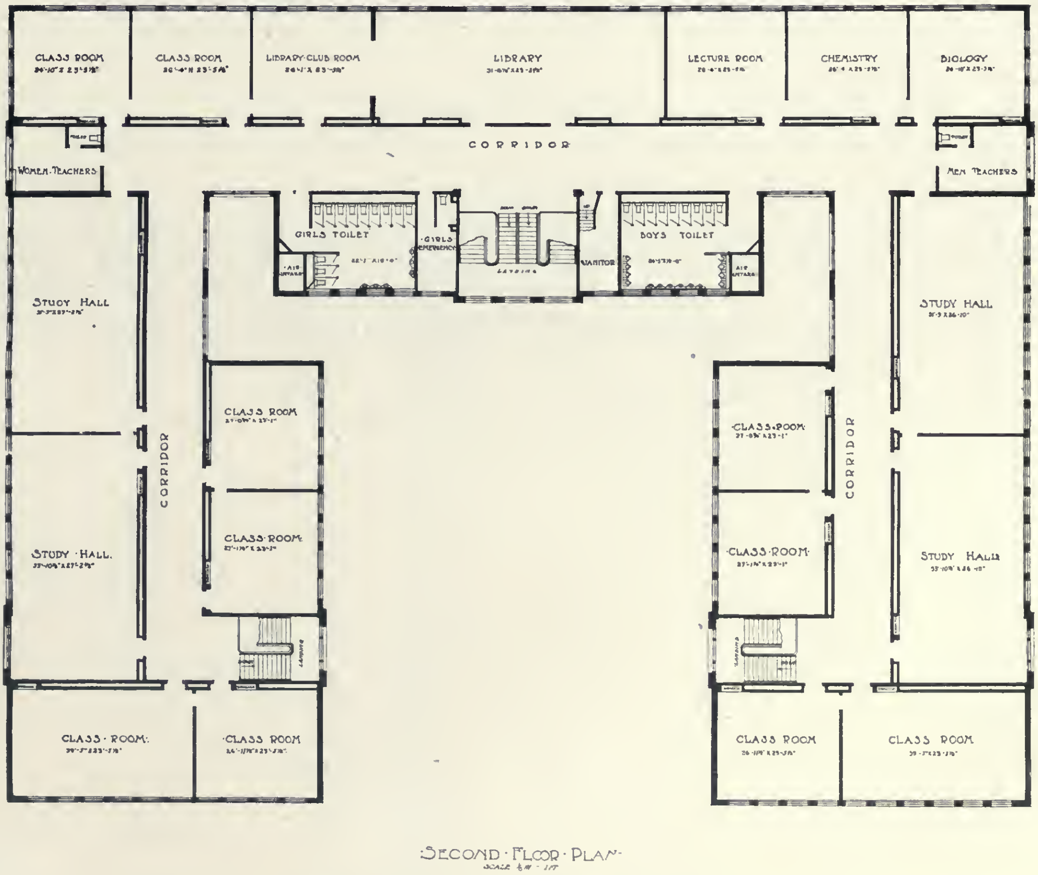


BENJAMIN FRANKLIN HIGH SCHOOL, PORTLAND, ORE.

F. A. Naramore, Architect of the Board of Education, Portland.

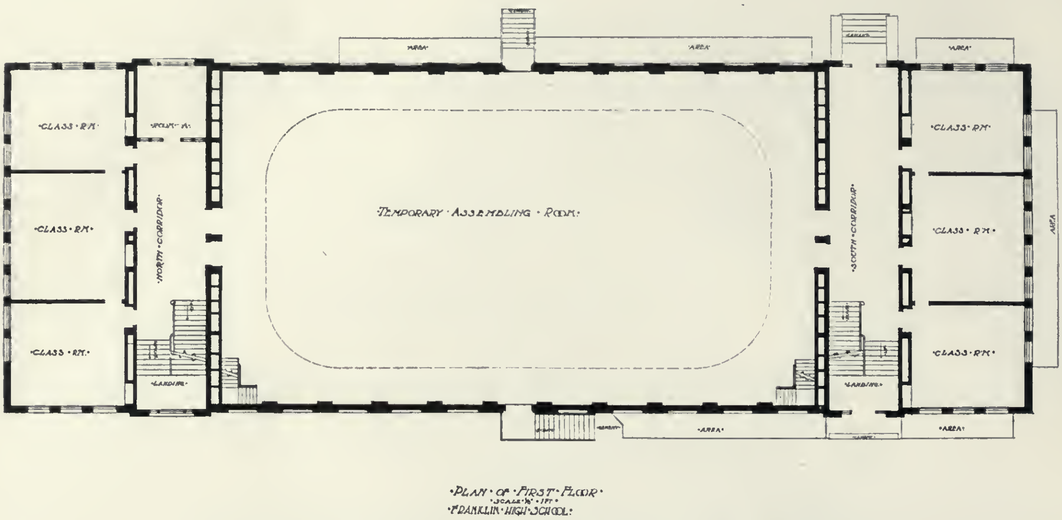

ROOM B
ROOM C
GALLERY
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
NORTH CORRIDOR
SOUTH CORRIDOR
UPPER PART OF ASSEMBLING ROOM
LANDING
LANDING
GALLERY

SECOND FLOOR PLAN OF GYMNASIUM AND MANUAL ARTS BUILDING.

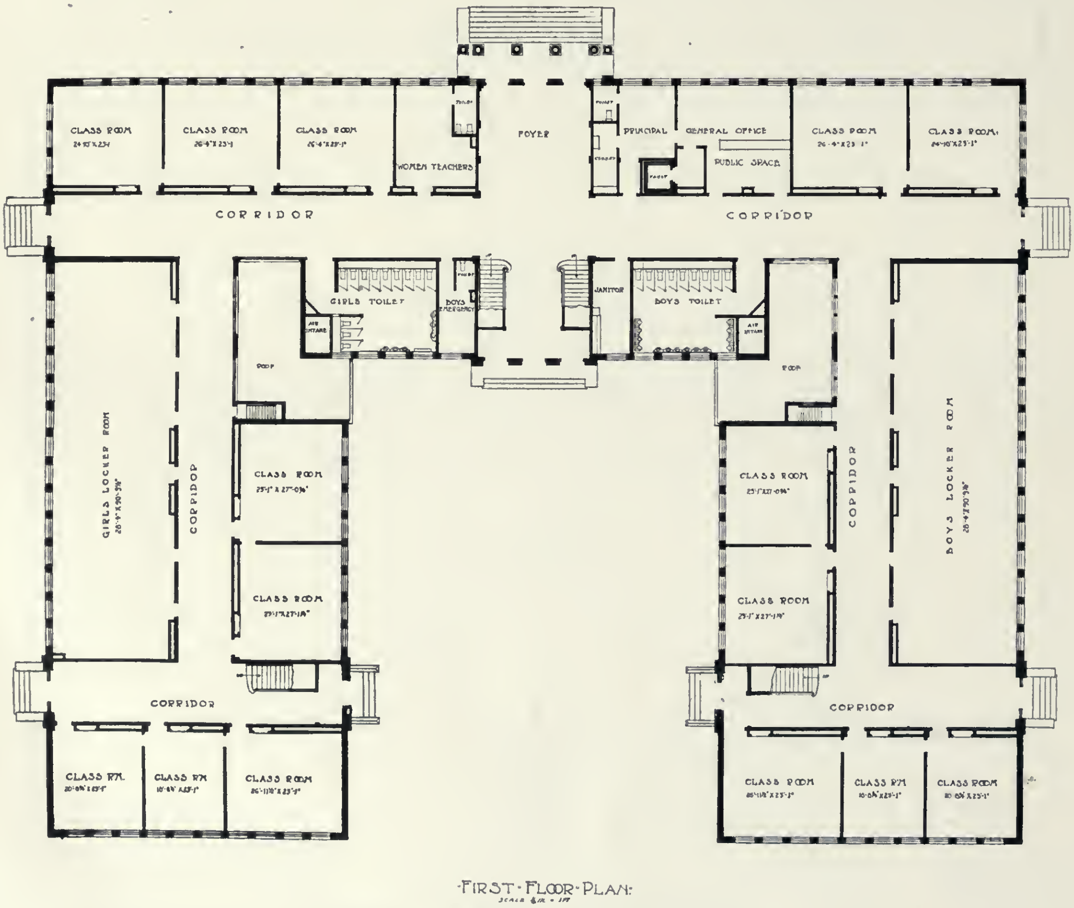

CLASS ROOM
CLASS ROOM
LIBRARY CLUB ROOM
LIBRARY
LECTURE ROOM
CHEMISTRY
BIOLOGY
CORRIDOR
WOMEN TEACHERS
MEN TEACHERS
GIRLS TOILET
GIRLS EMERGENCY
LANDING
JANITOR
BOYS TOILET
AIR SHAFTS
STUDY HALL
STUDY HALL
CLASS ROOM
CLASS ROOM
CORRIDOR
CLASS ROOM
CLASS ROOM
CORRIDOR
STUDY HALL
STUDY HALL
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
SECOND FLOOR PLAN

SECOND FLOOR PLAN OF MAIN BUILDING.

PLANS OF BENJAMIN FRANKLIN HIGH SCHOOL, PORTLAND, ORE.

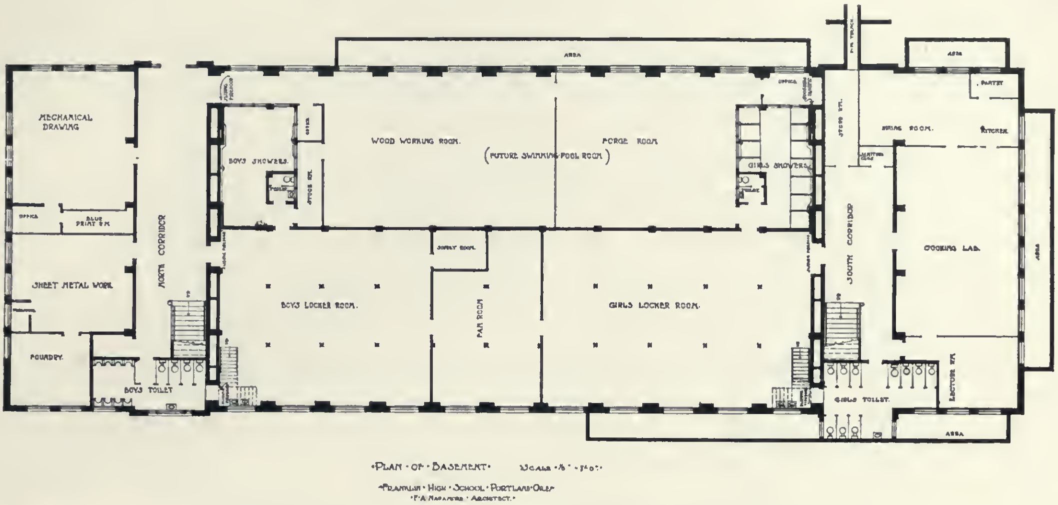

·CLASS·RM·
·CLASS·RM·
·CLASS·RM·
·NORTH·CORRIDOR·
·LANDING·
·TEMPORARY·ASSEMBLING·ROOM·
·SOUTH·CORRIDOR·
·LANDING·
·CLASS·RM·
·CLASS·RM·
·CLASS·RM·
·AREA·
·AREA·
·AREA·
·AREA·
·AREA·
·PLAN·OF·FIRST·FLOOR·
·SCALE ⅛"=1FT·
·FRANKLIN·HIGH·SCHOOL·

FIRST FLOOR PLAN, GYMNASIUM AND MANUAL ARTS BUILDING.

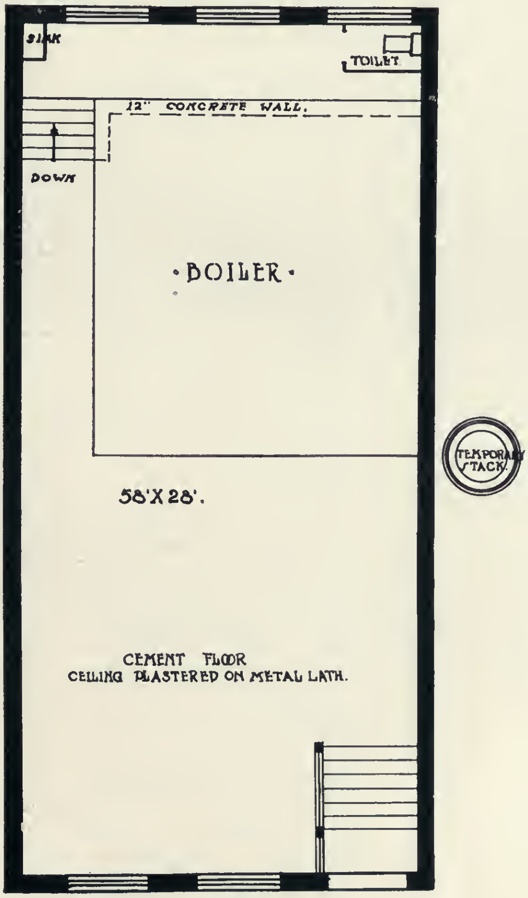

CLASS ROOM
24-10"X23'-1"
CLASS ROOM
26'-4"X23'-1"
CLASS ROOM
26'-4"X23'-1"
WOMEN TEACHERS
FOYER
PRINCIPAL
GENERAL OFFICE
PUBLIC SPACE
CLASS ROOM
26'-4"X23'-1"
CLASS ROOM
24'-10"X23'-1"
CORRIDOR
CORRIDOR
GIRLS TOILET
AIR INTAKE
BOYS EMERGENCY
JANITOR
BOYS TOILET
AIR INTAKE
ROOF
ROOF
GIRLS LOCKER ROOM
CORRIDOR
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CORRIDOR
BOYS LOCKER ROOM
CORRIDOR
CLASS RM.
CLASS RM
CLASS ROOM
CORRIDOR
CLASS ROOM
CLASS RM
CLASS ROOM
·FIRST·FLOOR·PLAN·
SCALE ⅛ IN = 1FT

FIRST FLOOR PLAN OF MAIN BUILDING.

FLOOR PLANS OF THE BENJAMIN FRANKLIN HIGH SCHOOL, PORTLAND, ORE.


AREA
MECHANICAL DRAWING
OFFICE
BLUE PRINT RM
SHEET METAL WORK
FOUNDRY
BOYS TOILET
NORTH CORRIDOR
BOYS SHOWERS
STOCK RM.
WOOD WORKING ROOM.
(FUTURE SWIMMING POOL ROOM)
FORGE ROOM
OFFICE
GIRLS SHOWERS
SUPPLY ROOM
BOYS LOCKER ROOM.
FAN ROOM
GIRLS LOCKER ROOM.
PIPE TRENCH
STORE RM.
DINING ROOM.
PANTRY
KITCHEN
SOUTH CORRIDOR
COOKING LAB.
LECTURE RM.
GIRLS TOILET.
AREA
AREA
AREA
•PLAN • OF • BASEMENT•
SCALE •⅛" = 1'-0"•
•FRANKLIN • HIGH • SCHOOL • PORTLAND•ORE•
•F•A NARAMORE • ARCHITECT.•

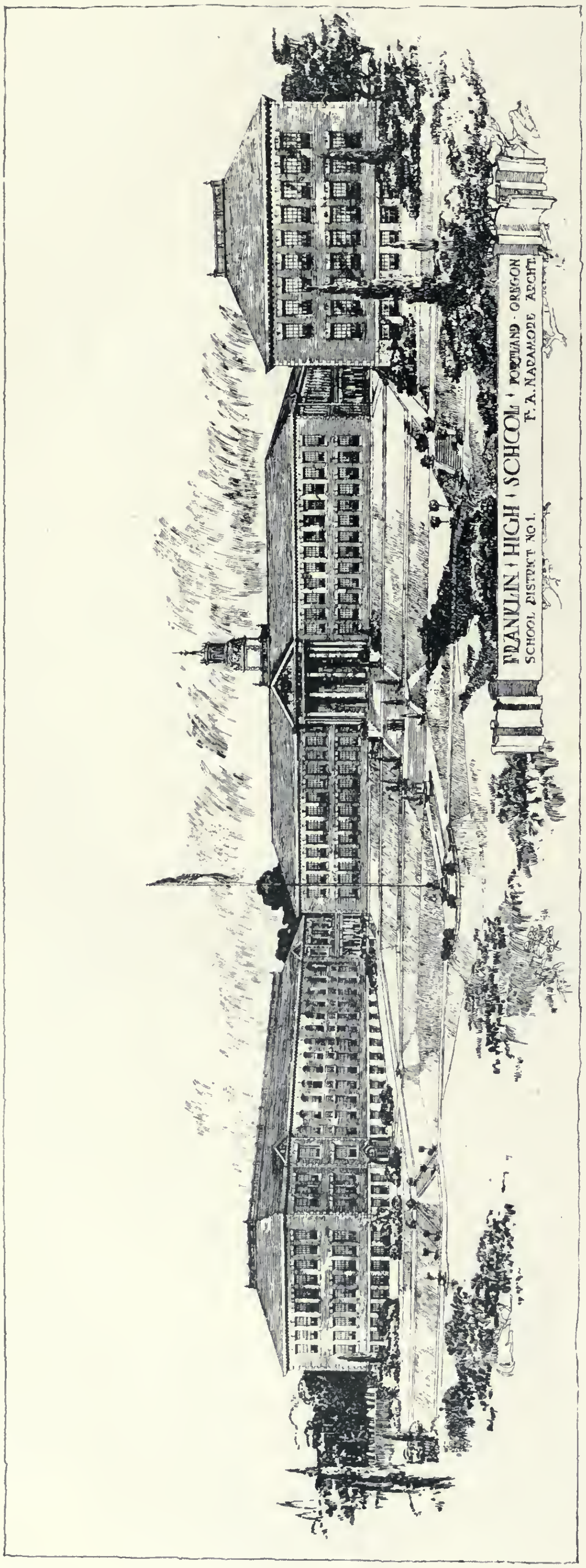
BASEMENT PLAN, GYMNASIUM AND MANUAL ARTS BUILDING.

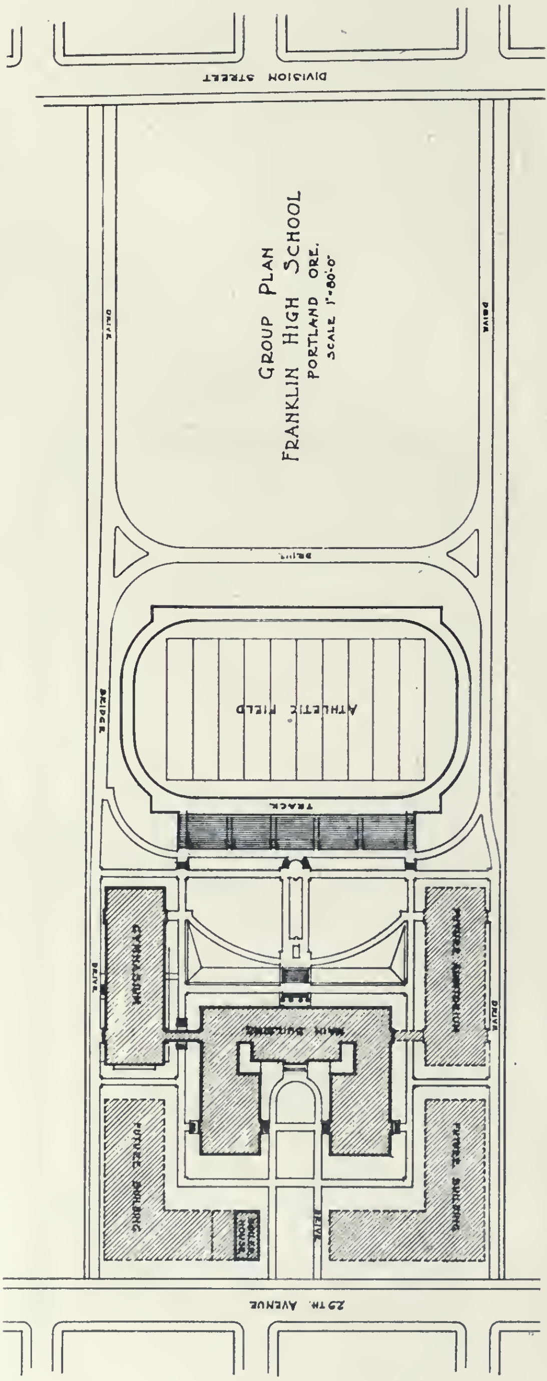

SINK
TOILET
12" CONCRETE WALL.
DOWN
•BOILER•
58'X 28'.
TEMPORARY STACK
CEMENT FLOOR
CEILING PLASTERED ON METAL LATH.

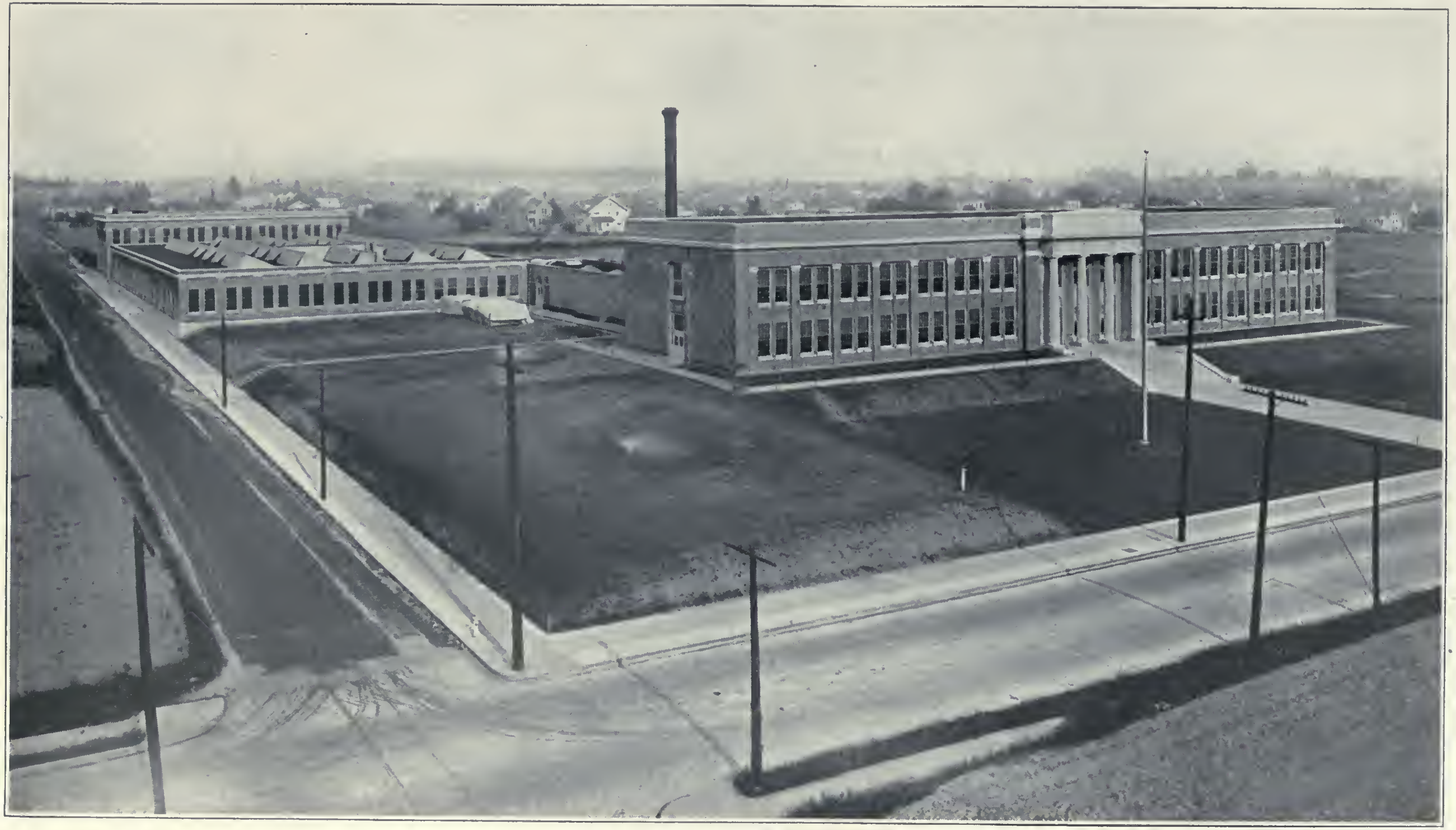
•PLAN• OF• BOILER• HOUSE•

FLOOR PLANS OF THE BENJAMIN FRANKLIN HIGH SCHOOL, PORTLAND, ORE.

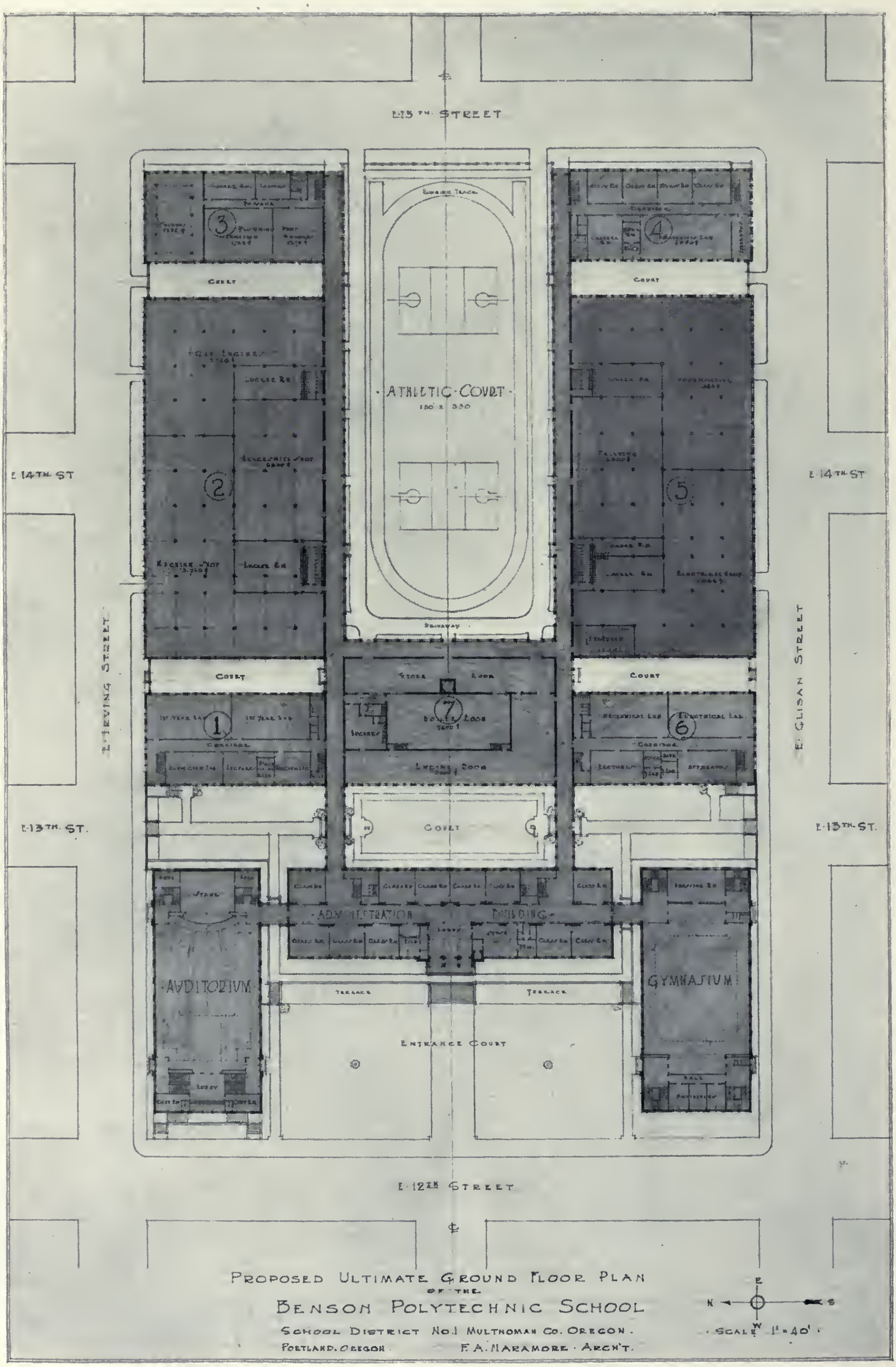
F. A. Naramore, Architect, Board of Education, Portland.


FRANKLIN HIGH SCHOOL PORTLAND · OREGON
SCHOOL DISTRICT NO 1.
F. A. NARAMORE ARCHT.

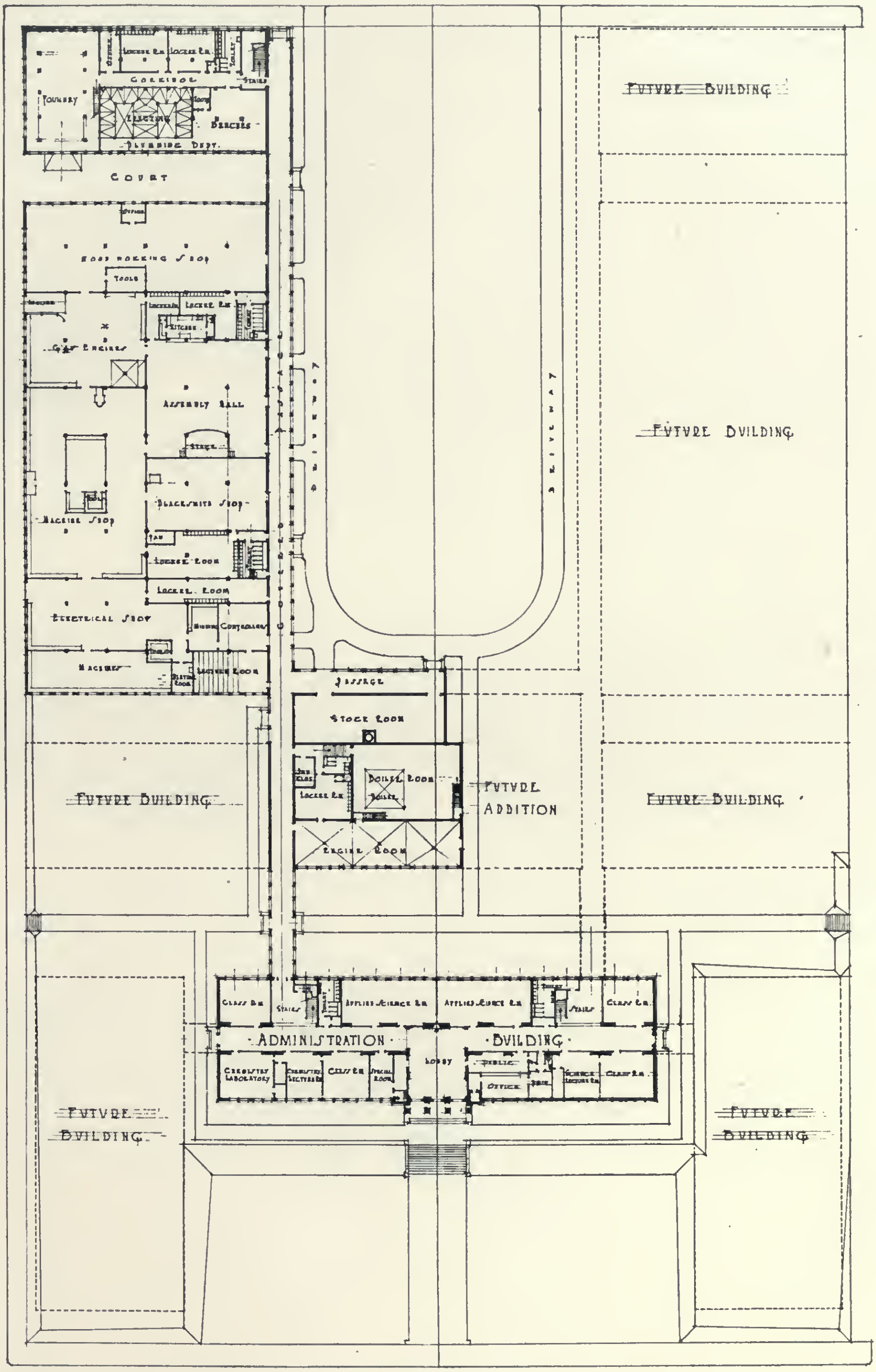

GROUP PLAN
FRANKLIN HIGH SCHOOL
PORTLAND ORE.
SCALE 1"=80'-0"
DIVISION STREET
25TH AVENUE
DRIVE
BRIDGE
ATHLETIC FIELD
TRACK
GYMNASIUM
FUTURE AUDITORIUM
MAIN BUILDING
FUTURE BUILDING
BOILER HOUSE



BENSON POLYTECHNIC HIGH SCHOOL, PORTLAND, ORE.
(View of First Unit.)
F. A. Naramore, Architect, Board of Education, Portland.

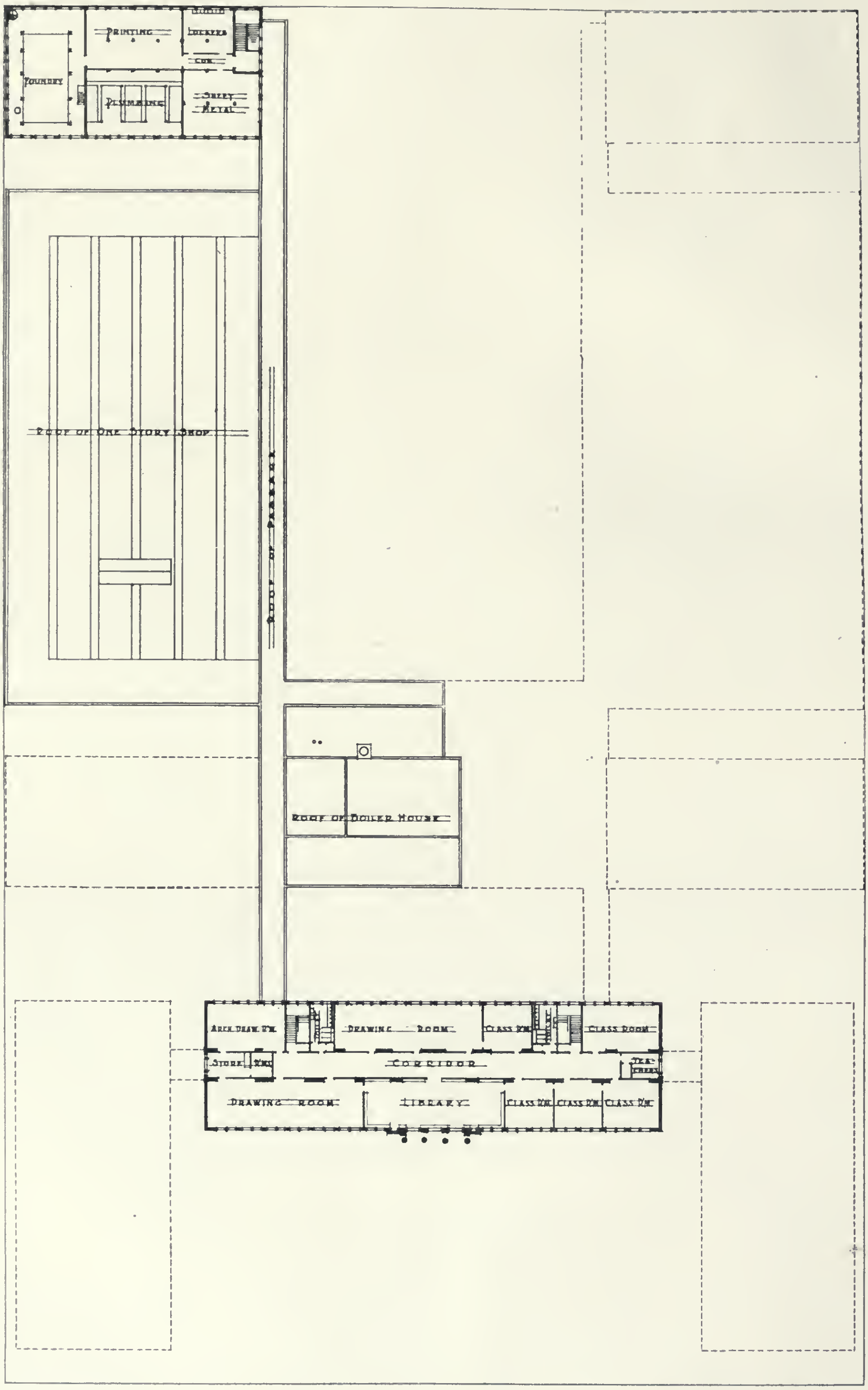

E 15TH STREET
ATHLETIC COURT
180' x 330'
COURT
COURT
COURT
COURT
COURT
E 14TH ST
E 14TH ST
E 13TH ST
E 13TH ST
E IRVING STREET
E GLISAN STREET
1
2
3
4
5
6
7
ADMINISTRATION BUILDING
AUDITORIUM
GYMNASIUM
TERRACE
TERRACE
ENTRANCE COURT
E 12TH STREET
E
N
S
W
SCALE 1" = 40'

PROPOSED ULTIMATE GROUND FLOOR PLAN
OF THE
BENSON POLYTECHNIC SCHOOL
SCHOOL DISTRICT NO. 1 MULTNOMAH CO. OREGON.
PORTLAND, OREGON. F. A. NARAMORE · ARCH'T.

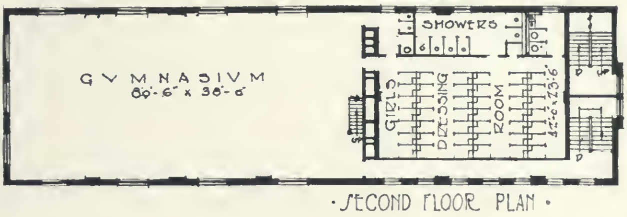

FOUNDRY
LOCKER RM.
LOCKER RM.
TOILET
CORRIDOR
STAIRS
ERECTING
BENCHES
PLUMBING DEPT.
COURT
OFFICE
WOOD WORKING SHOP
TOOLS
LOCKER RM.
KITCHEN
GAS ENGINES
ASSEMBLY HALL
STAGE
BLACKSMITH SHOP
MACHINE SHOP
LOCKER ROOM
LOCKER ROOM
ELECTRICAL SHOP
CONTROLLERS
MACHINES
LOCKER ROOM
COVERED PASSAGE
DRIVEWAY
DRIVEWAY
FUTURE BUILDING
FUTURE BUILDING
PASSAGE
STOCK ROOM
LOCKER RM.
BOILER ROOM
BOILER
ENGINE ROOM
FUTURE ADDITION
FUTURE BUILDING
FUTURE BUILDING
CLASS RM.
STAIRS
TOILET
APPLIED SCIENCE RM.
APPLIED SCIENCE RM.
STAIRS
CLASS RM.
ADMINISTRATION BUILDING
CHEMISTRY LABORATORY
CHEMISTRY LECTURE RM.
CLASS RM.
SPECIAL ROOM
LOBBY
PUBLIC
OFFICE
SCIENCE LECTURE RM.
CLASS RM.
FUTURE BUILDING
FUTURE BUILDING

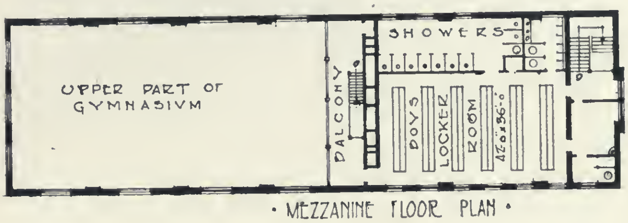
PRESENT FIRST FLOOR PLAN, BENSON POLYTECHNIC HIGH SCHOOL, PORTLAND, ORE.

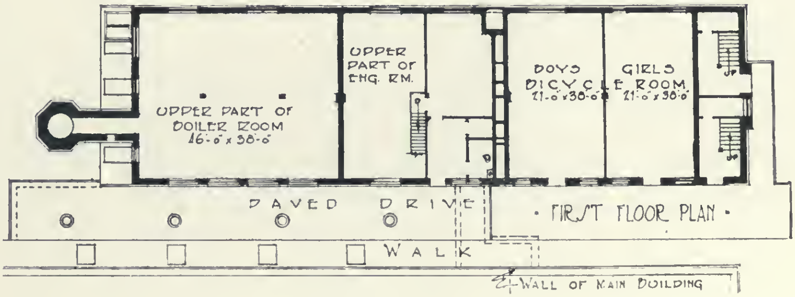
F. A. Naramore, Architect, Board of Education, Portland.

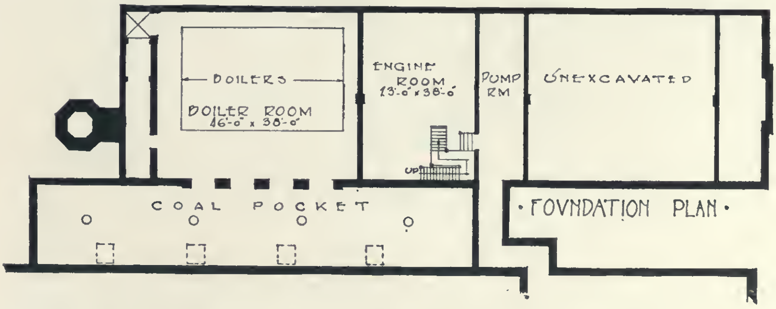

Printing
Lockers
Cor.
Foundry
Plumbing
Sheet Metal
Roof of One Story Shop
Roof of Passage
Roof of Boiler House
Arch. Draw. R'm.
Drawing Room
Class R'm.
Class Room
Store
R'm.
Corridor
Tea-chers
Drawing Room
Library
Class R'm.
Class R'm.
Class R'm.

SECOND FLOOR PLAN, BENSON POLYTECHNIC HIGH SCHOOL, PORTLAND, ORE.
F. A. Naramore, Architect, Board of Education, Portland.


GYMNASIUM
80'-6" x 38'-0"
SHOWERS
GIRLS DRESSING ROOM
17'-0" x 23'-6"
D
• SECOND FLOOR PLAN •

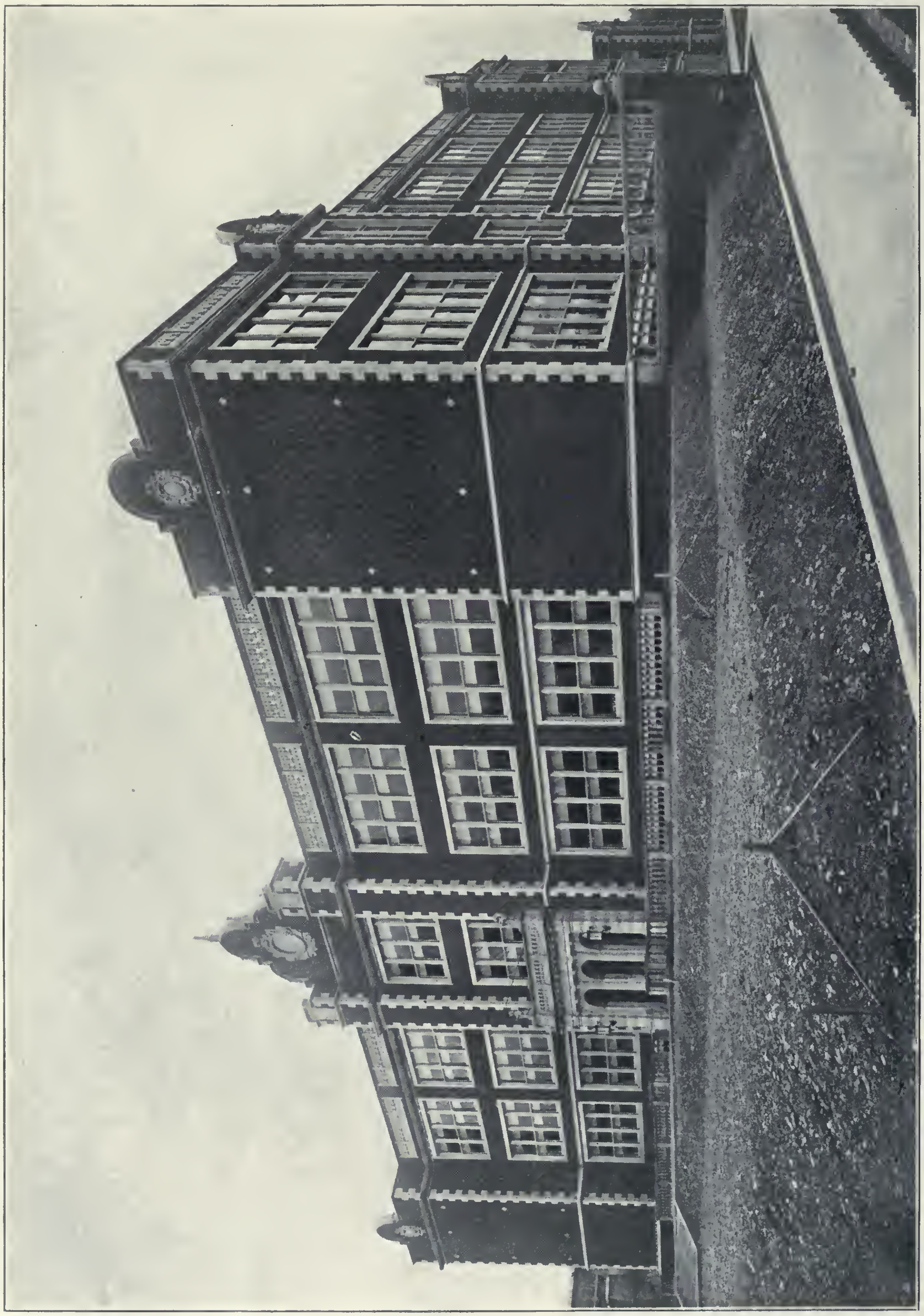

UPPER PART OF GYMNASIUM
BALCONY
SHOWERS
BOYS LOCKER ROOM
17'-0" x 38'-0"
D
• MEZZANINE FLOOR PLAN •


UPPER PART OF BOILER ROOM
46'-0" x 38'-0"
UPPER PART OF ENG. RM.
BOYS BICYCLE ROOM
21'-0" x 38'-0"
GIRLS BICYCLE ROOM
21'-0" x 38'-0"
PAVED DRIVE
WALK
• FIRST FLOOR PLAN •
WALL OF MAIN BUILDING

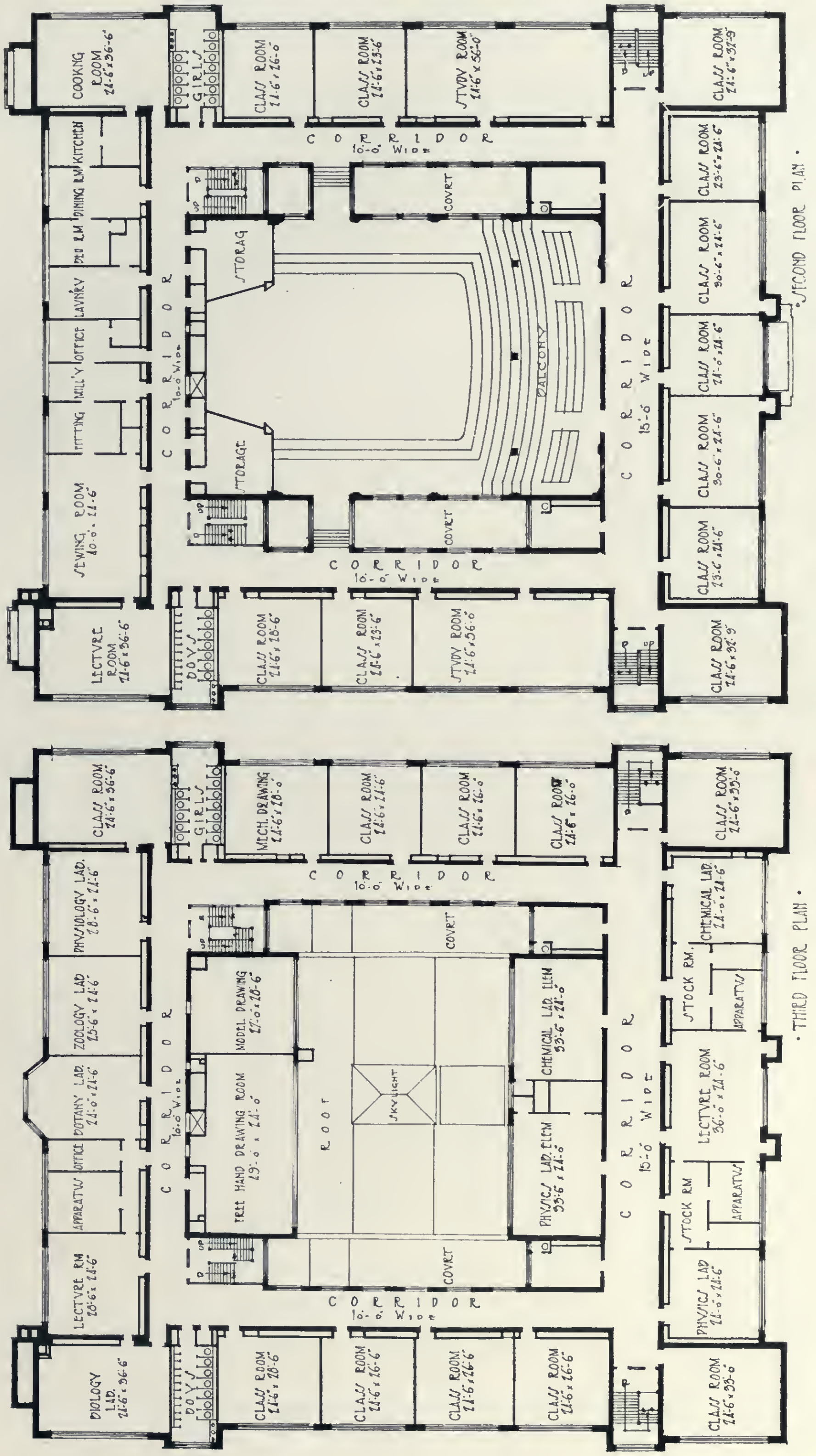

BOILERS
BOILER ROOM
46'-0" x 38'-0"
ENGINE ROOM
13'-0" x 38'-0"
PUMP RM
UNEXCAVATED
UP
COAL POCKET
• FOUNDATION PLAN •

FLOOR PLANS OF THE POWER PLANT AND GYMNASIUM BUILDING, HIGH SCHOOL, BINGHAMTON, N. Y.

C. E. Vosbury, Architect, Binghamton.



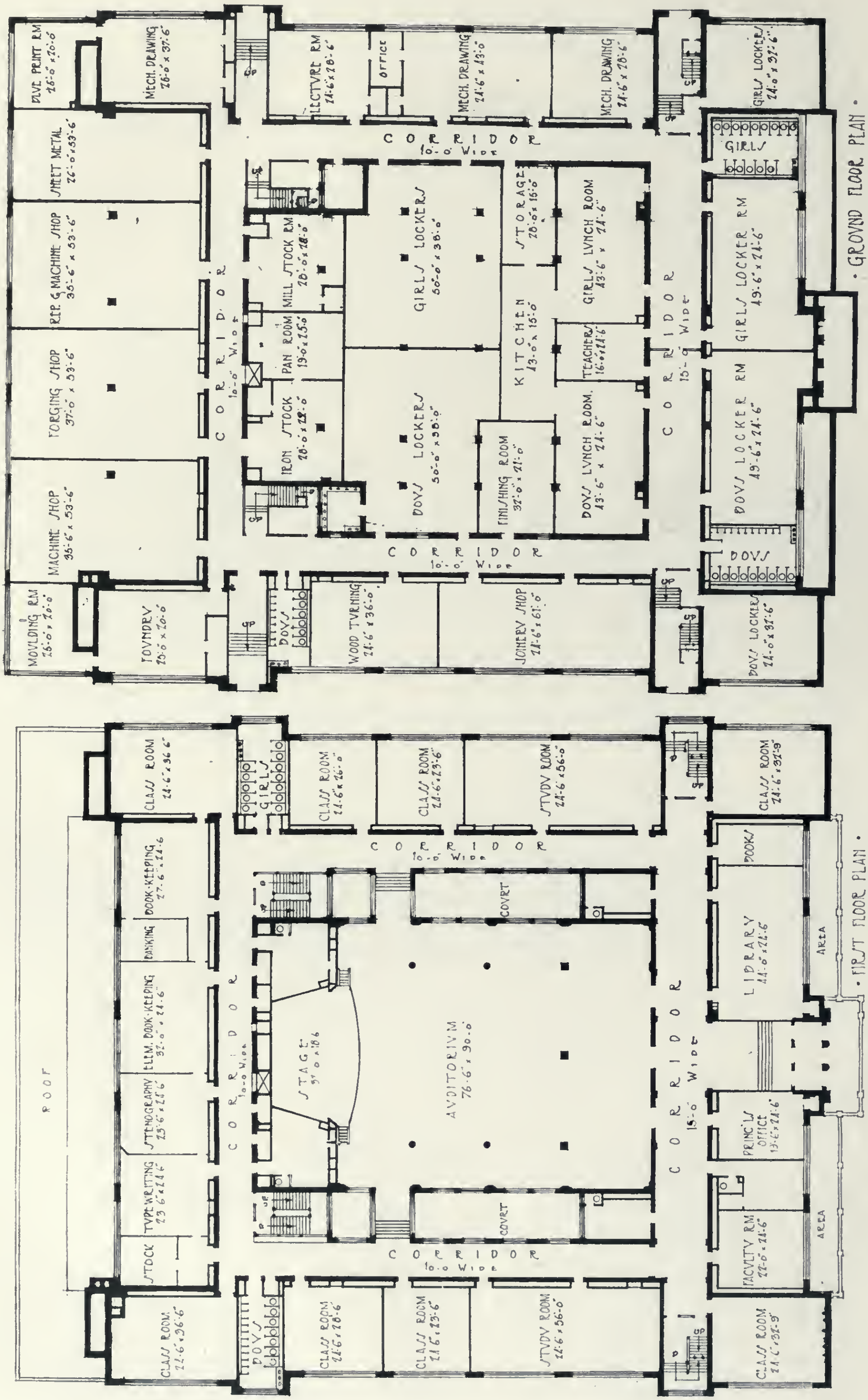
HIGH SCHOOL, BINGHAMTON, N. Y.
C. E. Vosbury, Architect, Binghamton.


COOKING ROOM 21'-6" x 36'-6"
GIRLS
CLASS ROOM 21'-6" x 26'-0"
CLASS ROOM 21'-6" x 23'-6"
STUDY ROOM 21'-6" x 56'-0"
CLASS ROOM 21'-6" x 32'-9"
CORRIDOR 10'-0" WIDE
KITCHEN
DINING RM
BED RM
LAUNDRY
MILL'Y OFFICE
FITTING
SEWING ROOM 40'-0" x 21'-6"
CORRIDOR 10'-0" WIDE
STORAGE
STORAGE
COURT
COURT
BALCONY
CORRIDOR 15'-0" WIDE
CLASS ROOM 23'-6" x 21'-6"
CLASS ROOM 30'-6" x 21'-6"
CLASS ROOM 21'-0" x 21'-6"
CLASS ROOM 30'-6" x 21'-6"
CLASS ROOM 23'-6" x 21'-6"
CORRIDOR 10'-0" WIDE
LECTURE ROOM 21'-6" x 36'-6"
BOYS
CLASS ROOM 21'-6" x 28'-6"
CLASS ROOM 21'-6" x 23'-6"
STUDY ROOM 21'-6" x 56'-0"
CLASS ROOM 21'-6" x 32'-9"
UP
CLASS ROOM 21'-6" x 36'-6"
GIRLS
MECH. DRAWING 21'-6" x 28'-0"
CLASS ROOM 21'-6" x 21'-6"
CLASS ROOM 21'-6" x 26'-0"
CLASS ROOM 21'-6" x 26'-0"
CLASS ROOM 21'-6" x 33'-0"
CORRIDOR 10'-0" WIDE
PHYSIOLOGY LAB. 28'-6" x 21'-6"
ZOOLOGY LAB. 25'-6" x 21'-6"
BOTANY LAB. 21'-0" x 21'-6"
OFFICE
APPARATUS
LECTURE RM 28'-6" x 21'-6"
BIOLOGY LAB. 21'-6" x 36'-6"
CORRIDOR 10'-0" WIDE
MODEL DRAWING 27'-0" x 28'-6"
FREE HAND DRAWING ROOM 49'-0" x 21'-0"
ROOF
SKYLIGHT
COURT
COURT
CHEMICAL LAB. ELEM 33'-6" x 21'-0"
PHYSICS LAB. ELEM 33'-6" x 21'-0"
CORRIDOR 15'-0" WIDE
CHEMICAL LAB. 21'-0" x 21'-6"
STOCK RM.
APPARATUS
LECTURE ROOM 36'-0" x 21'-6"
STOCK RM
APPARATUS
PHYSICS LAB 21'-0" x 21'-6"
CORRIDOR 10'-0" WIDE
BOYS
CLASS ROOM 21'-6" x 28'-6"
CLASS ROOM 21'-6" x 26'-6"
CLASS ROOM 21'-6" x 26'-6"
CLASS ROOM 21'-6" x 26'-6"
CLASS ROOM 21'-6" x 33'-0"

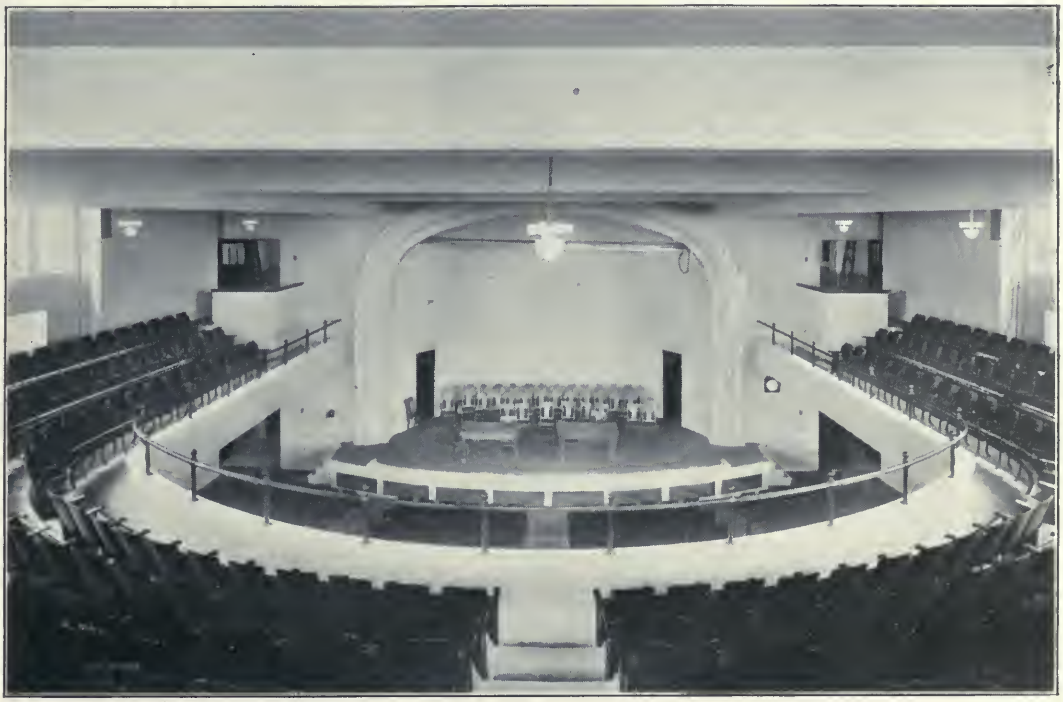
· SECOND FLOOR PLAN ·

· THIRD FLOOR PLAN ·

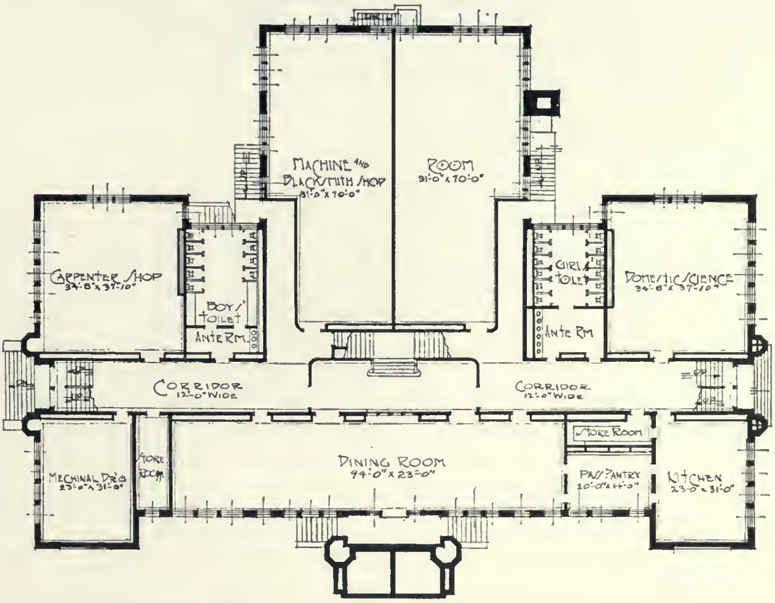
FLOOR PLANS OF THE HIGH SCHOOL, BINGHAMTON, N. Y.


BLUE PRINT RM 26'-0" x 26'-0"
MECH. DRAWING 26'-0" x 37'-6"
LECTURE RM 24'-6" x 28'-6"
OFFICE
MECH. DRAWING 24'-6" x 43'-0"
MECH. DRAWING 24'-6" x 28'-6"
GIRLS LOCKERS 24'-0" x 37'-6"
CORRIDOR 10'-0" WIDE
GIRLS
SHEET METAL 26'-0" x 53'-6"
RIP. & MACHINE SHOP 35'-6" x 53'-6"
FORGING SHOP 37'-0" x 53'-6"
MACHINE SHOP 35'-6" x 53'-6"
CORRIDOR 10'-0" WIDE
MILL STOCK RM 28'-0" x 18'-0"
PAN ROOM 19'-0" x 15'-6"
IRON STOCK 28'-0" x 18'-0"
GIRLS LOCKERS 50'-0" x 38'-0"
BOYS LOCKERS 50'-0" x 38'-0"
STORAGE 28'-0" x 15'-0"
KITCHEN 43'-0" x 15'-0"
FINISHING ROOM 32'-0" x 21'-0"
GIRLS LUNCH ROOM 43'-6" x 24'-6"
TEACHERS 16'-0" x 24'-6"
BOYS LUNCH ROOM 43'-6" x 24'-6"
CORRIDOR 15'-0" WIDE
GIRLS LOCKER RM 49'-6" x 24'-6"
BOYS LOCKER RM 49'-6" x 24'-6"
BOYS
CORRIDOR 10'-0" WIDE
MOULDING RM 26'-0" x 26'-0"
FOUNDRY 26'-0" x 26'-0"
BOYS
WOOD TURNING 24'-6" x 36'-0"
JOINERY SHOP 24'-6" x 61'-0"
BOYS LOCKERS 24'-0" x 37'-6"
GROUND FLOOR PLAN
CLASS ROOM 24'-6" x 36'-6"
GIRLS
CLASS ROOM 24'-6" x 26'-0"
CLASS ROOM 24'-6" x 23'-6"
STUDY ROOM 24'-6" x 56'-0"
CLASS ROOM 24'-6" x 32'-9"
CORRIDOR 10'-0" WIDE
ROOF
BOOK-KEEPING 27'-6" x 24'-6"
BANKING
ELEM. BOOK-KEEPING 32'-0" x 24'-6"
STENOGRAPHY 23'-6" x 25'-6"
TYPE-WRITING 23'-6" x 24'-6"
STOCK
CORRIDOR 10'-0" WIDE
COURT
STAGE
AUDITORIUM 76'-6" x 90'-0"
COURT
CORRIDOR 15'-0" WIDE
BOOKS
LIBRARY 44'-0" x 24'-6"
AREA
PRINC'S OFFICE 13'-6" x 24'-6"
FACULTY RM 22'-0" x 24'-6"
AREA
CORRIDOR 10'-0" WIDE
CLASS ROOM 22'-6" x 36'-6"
BOYS
CLASS ROOM 24'-6" x 28'-6"
CLASS ROOM 24'-6" x 23'-6"
STUDY ROOM 24'-6" x 56'-0"
CLASS ROOM 24'-6" x 32'-9"
FIRST FLOOR PLAN

FLOOR PLANS, HIGH SCHOOL, BINGHAMTON, N. Y.
C. E. Vosbury, Architect, Binghamton.

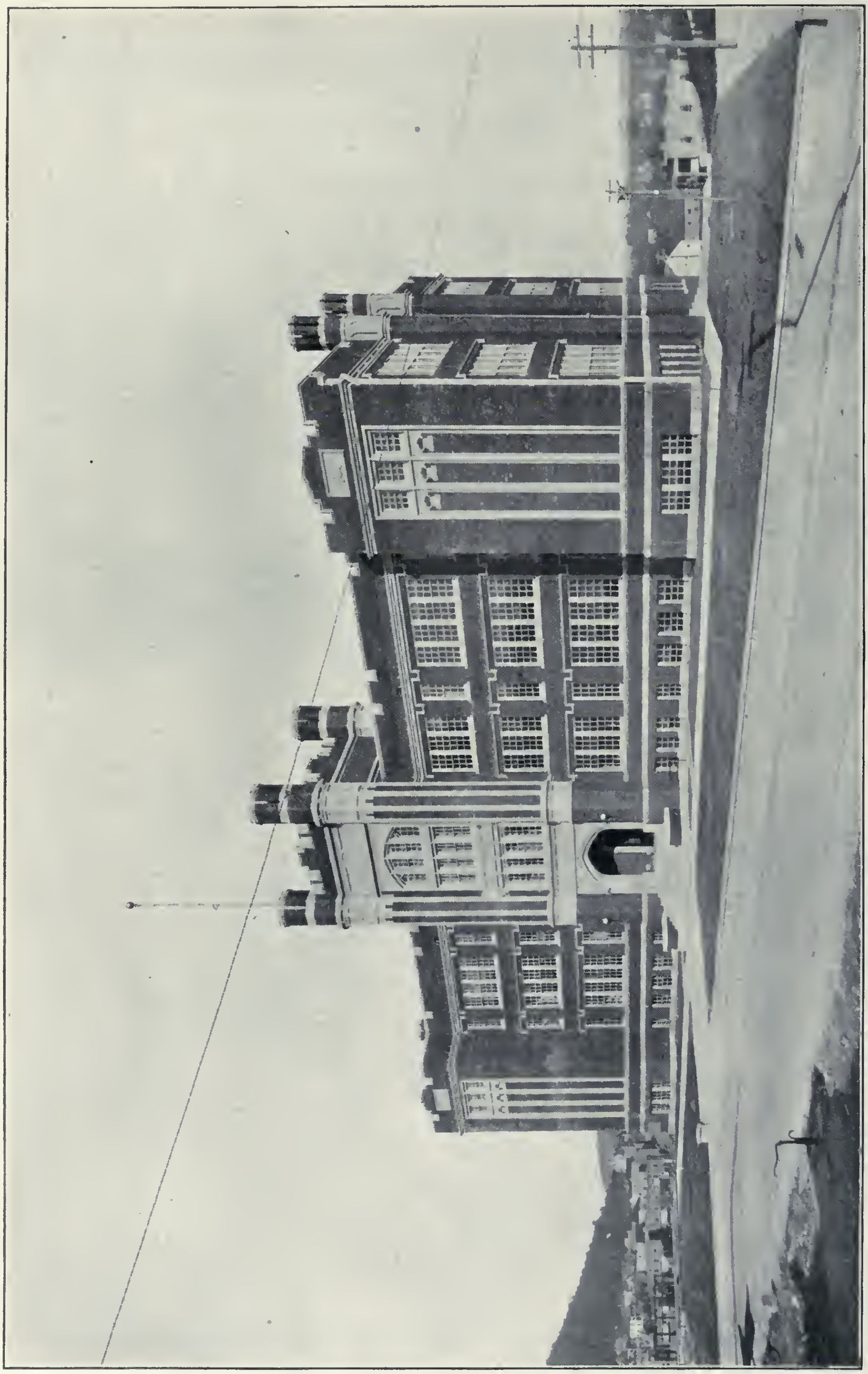


AUDITORIUM, HIGH SCHOOL, HOT SPRINGS, ARK.

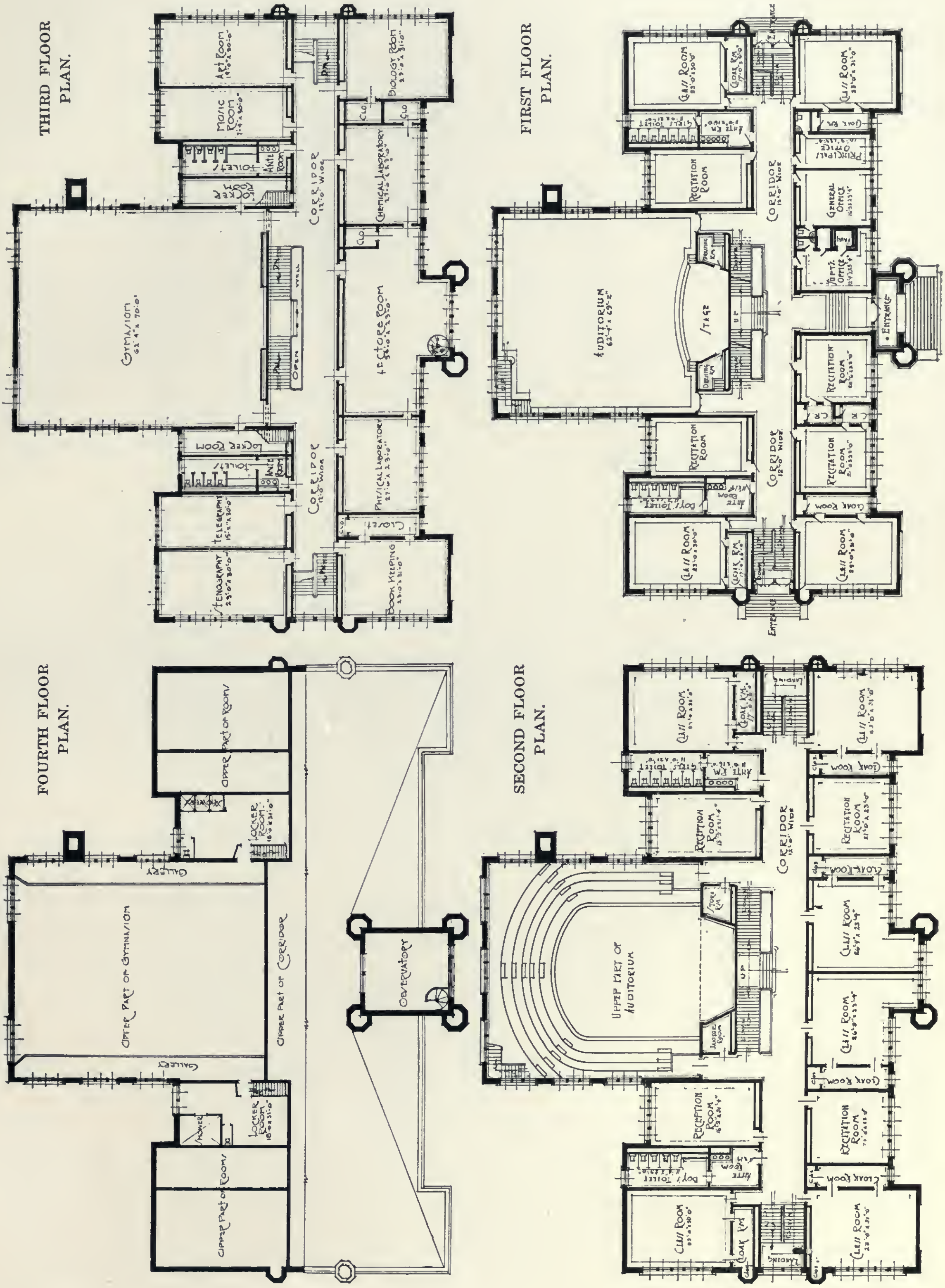

MACHINE AND BLACKSMITH SHOP
31'-0" x 70'-0"
ROOM
31'-0" x 70'-0"
CARPENTER SHOP
34'-8" x 37'-10"
BOYS' TOILET
ANTE RM.
GIRLS' TOILET
ANTE RM
DOMESTIC SCIENCE
34'-8" x 37'-10"
CORRIDOR
12'-0" WIDE
CORRIDOR
12'-0" WIDE
UP
STORE ROOM
MECHINAL DR'G
23'-0" x 31'-0"
STORE ROOM
DINING ROOM
94'-0" x 23'-0"
PASS PANTRY
10'-0" x 14'-0"
KITCHEN
23'-0" x 31'-0"

BASEMENT PLAN, HIGH SCHOOL, HOT SPRINGS, ARK.

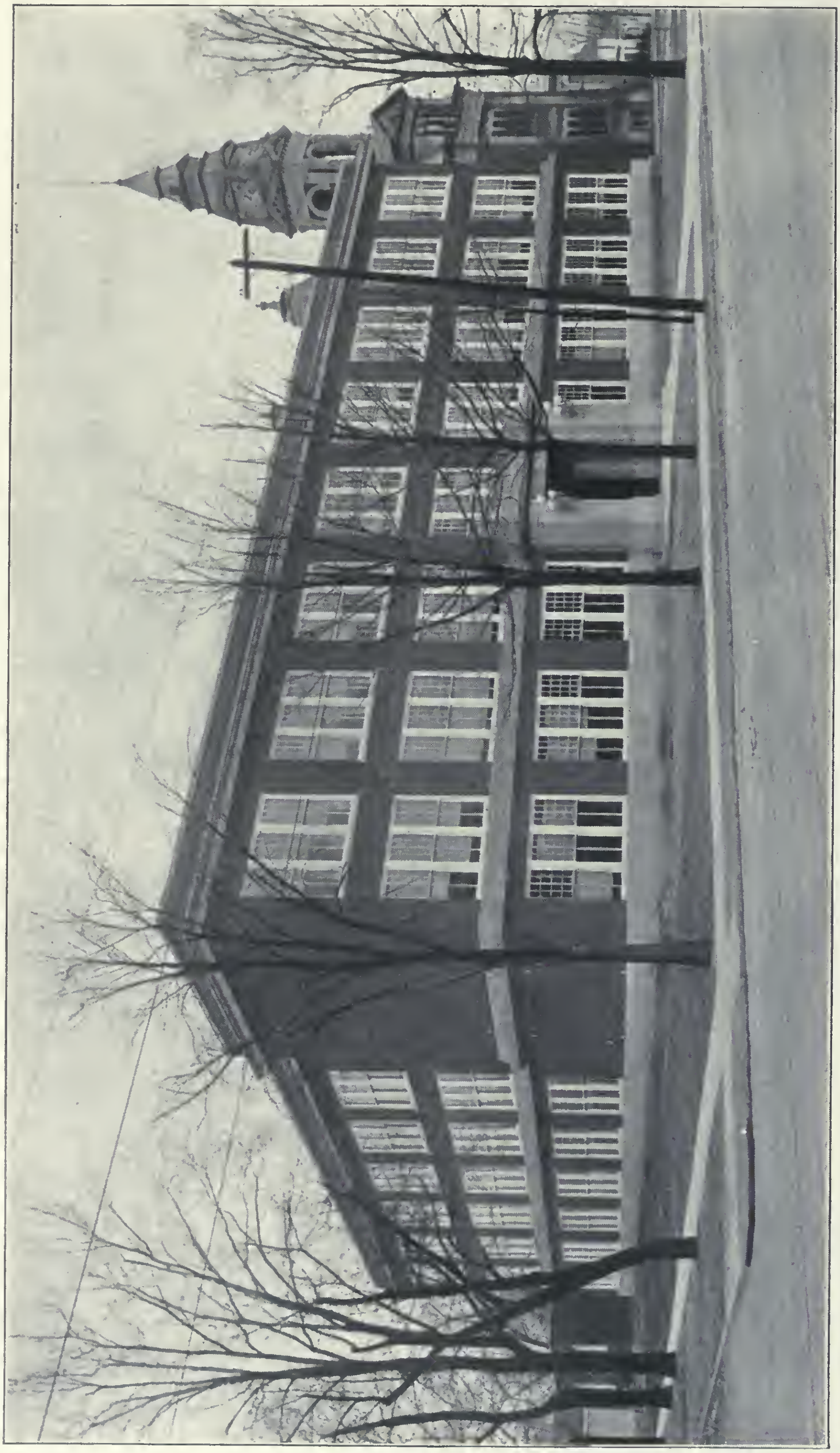
Sanguinet & Staats, Architects, Fort Worth, Tex.



HIGH SCHOOL, HOT SPRINGS, ARK.
Sanguinet & Staats, Architects, Fort Worth, Tex.

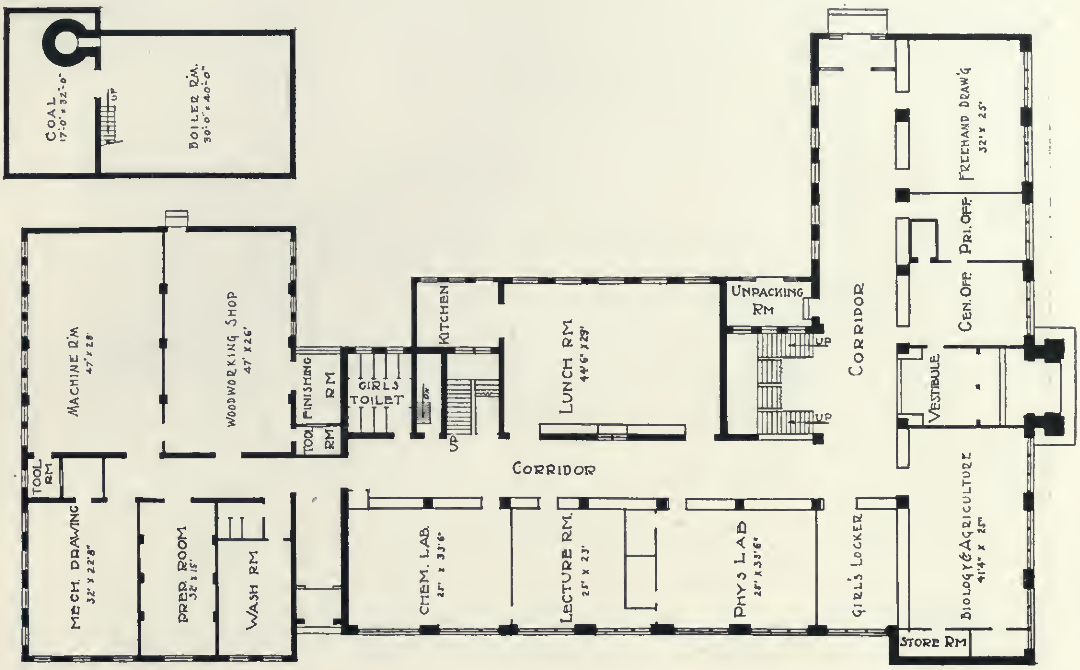

THIRD FLOOR PLAN.
FIRST FLOOR PLAN.
FOURTH FLOOR PLAN.
SECOND FLOOR PLAN.
Art Room
Music Room
Biology Room
Toilet
Ante Room
Locker Room
Corridor 12'-0" Wide
Chemical Laboratory
Clo.
Gymnasium 62'-4" x 70'-0"
Open Well
Lecture Room
Physical Laboratory
Closets
Telegraphy
Stenography
Book Keeping
Class Room
Cloak Rm.
Girls' Toilet
Ante Rm.
Recitation Room
Principal's Office
General Office
Supt's Office
Auditorium 62'-4" x 69'-2"
Stage
Dressing Rm.
Entrance
Boys' Toilet
Upper Part of Rooms
Gallery
Upper Part of Gymnasium
Upper Part of Corridor
Observatory
Shower
Upper Part of Auditorium
Landing
Up

FLOOR PLANS, HIGH SCHOOL, HOT SPRINGS, ARK.

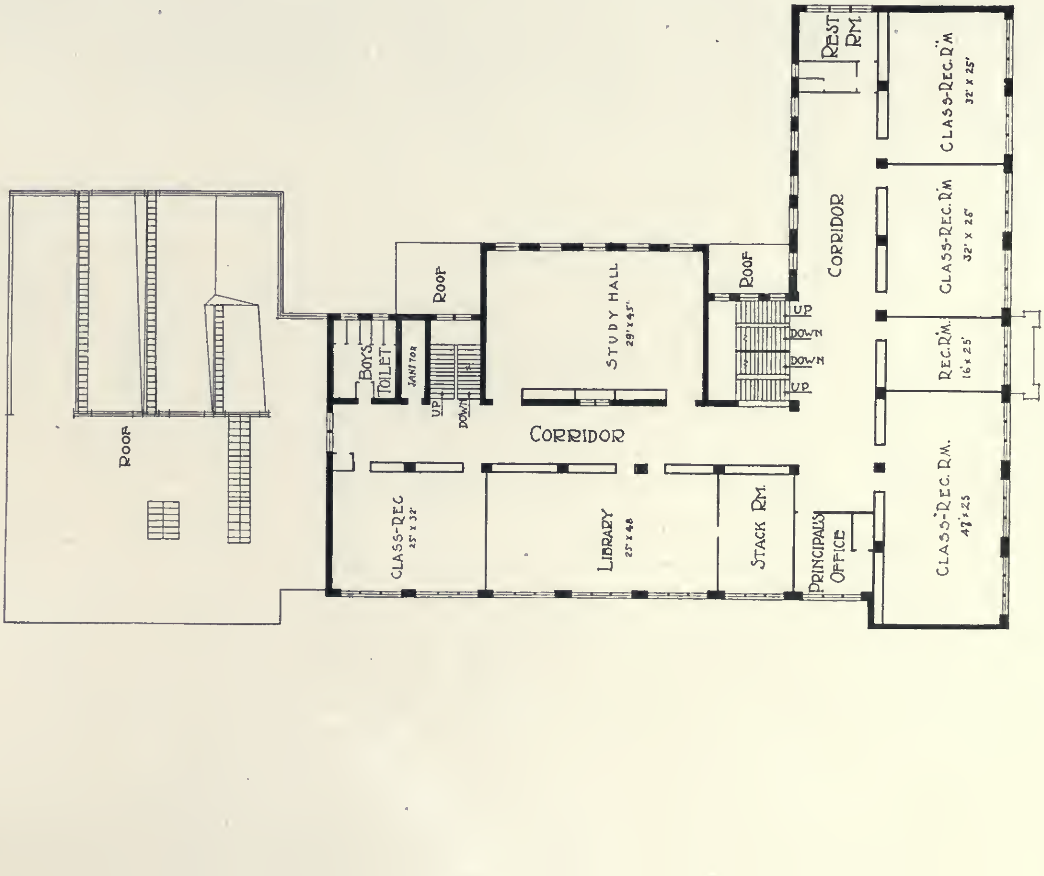


HIGH SCHOOL, YPSILANTI, MICH.

Robinson & Campau, Architects, Grand Rapids, Mich.

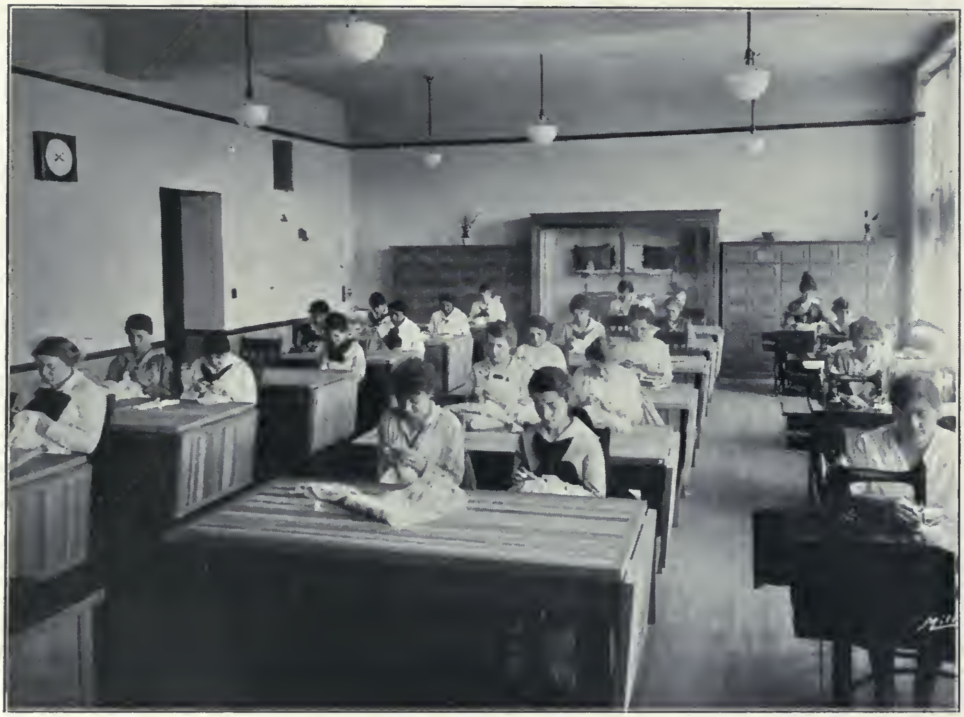

COAL 17'0"x32'0"
UP
BOILER R.M. 30'0"x40'0"
MACHINE R'M 47'x28'
WOODWORKING SHOP 47'x26'
FINISHING RM
TOOL RM
GIRLS TOILET
KITCHEN
DN
UP
LUNCH RM 44'6"x29'
UNPACKING RM
UP
UP
CORRIDOR
FREEHAND DRAW'G 32'x25'
PRI. OFF.
GEN. OFF.
VESTIBULE
TOOL RM
MECH. DRAWING 32'x22'8"
PREP. ROOM 32'x15'
WASH RM
CORRIDOR
CHEM. LAB. 25'x33'6"
LECTURE RM. 25'x23'
PHYS LAB 25'x33'6"
GIRL'S LOCKER
BIOLOGY & AGRICULTURE 41'4"x25"
STORE RM

FIRST FLOOR PLAN.

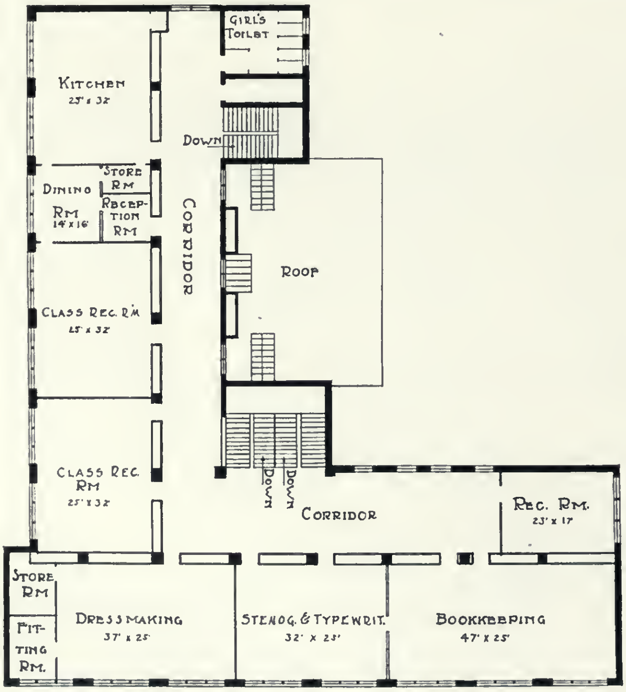

ROOF
ROOF
BOYS TOILET
JANITOR
UP
DOWN
STUDY HALL 29'x45'
ROOF
UP
DOWN
DOWN
UP
CORRIDOR
REST RM
CLASS-REC. R'M 32'x25'
CLASS-REC. R'M 32'x26'
REC. R'M. 16'x25'
CLASS-REC. RM. 43'x25
CORRIDOR
CLASS-REC 25'x32'
LIBRARY 25'x48
STACK RM.
PRINCIPAL'S OFFICE

SECOND FLOOR PLAN.

FLOOR PLANS, HIGH SCHOOL, YPSILANTI, MICH.

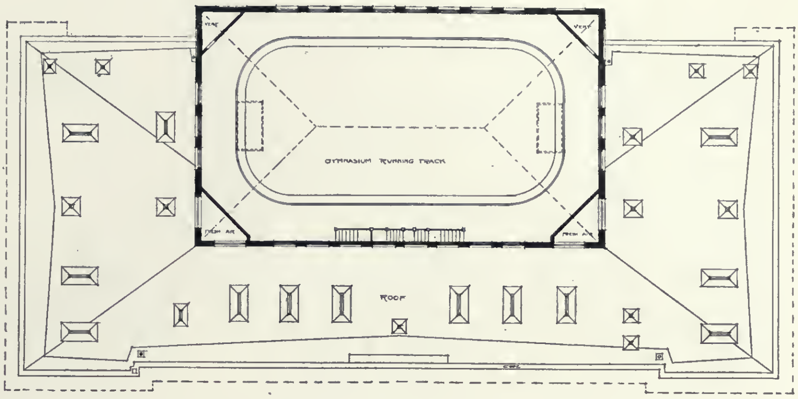


A GOOD TYPE OF SEWING ROOM FOR A HIGH SCHOOL
SEWING CLASSROOM, HIGH SCHOOL, YPSILANTI, MICH.

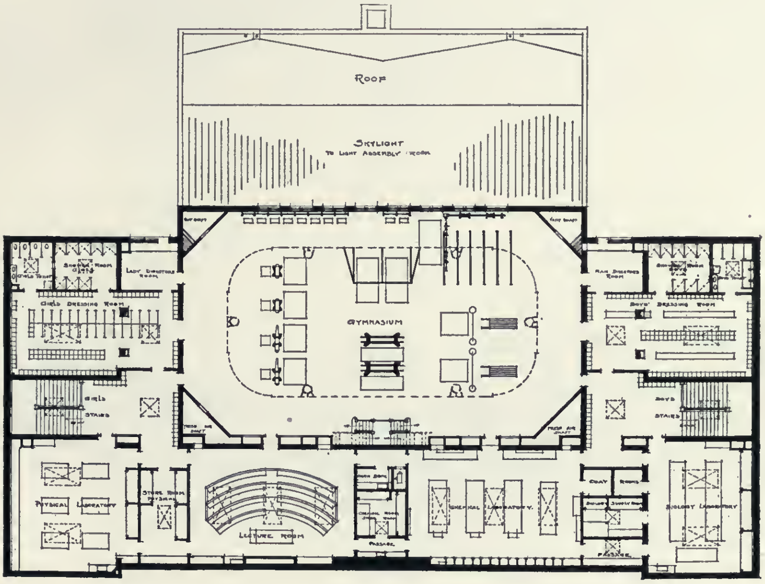

Girl's Toilet
Kitchen
25' x 32'
Down
Store Rm
Dining Rm
14' x 16'
Reception Rm
Corridor
Roof
Class Rec. R'm
25' x 32'
Class Rec. Rm
25' x 32'
Down
Down
Corridor
Rec. Rm.
23' x 17'
Store Rm
Fitting Rm.
Dressmaking
37' x 25'
Stenog. & Typewrit.
32' x 25'
Bookkeeping
47' x 25'

THIRD FLOOR PLAN.

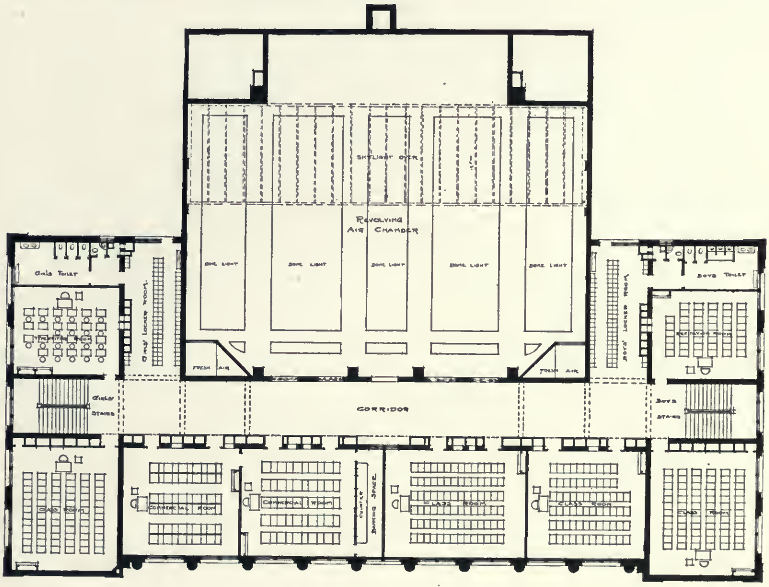
FLOOR PLAN, HIGH SCHOOL,
YPSILANTI, MICH.


Vent
Vent
Gymnasium Running Track
Fresh Air
Fresh Air
Roof

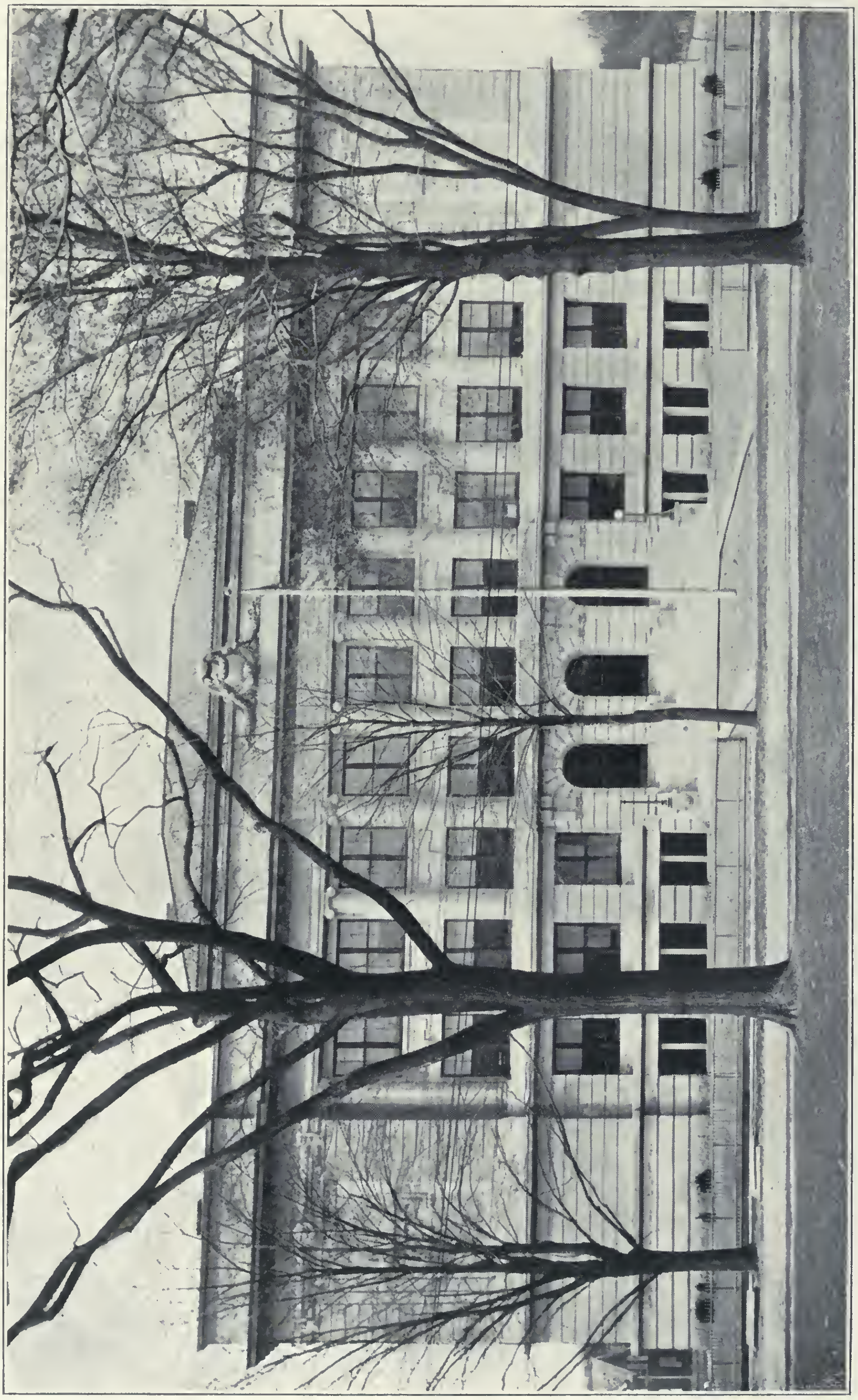
FIFTH FLOOR PLAN,
HIGH SCHOOL,
BLOOMFIELD, N. J.


Roof
Skylight
to light Assembly Room
Gymnasium
Girls Toilet
Shower Room
Lady Director's Room
Girls Dressing Room
Man Director's Room
Shower Room
Boys' Dressing Room
Girls
Stairs
Boys
Stairs
Fresh Air Shaft
Fresh Air Shaft
Physical Laboratory
Store Room
Lecture Room
Passage
Chemical Laboratory
Coat Room
Passage
Biology Laboratory

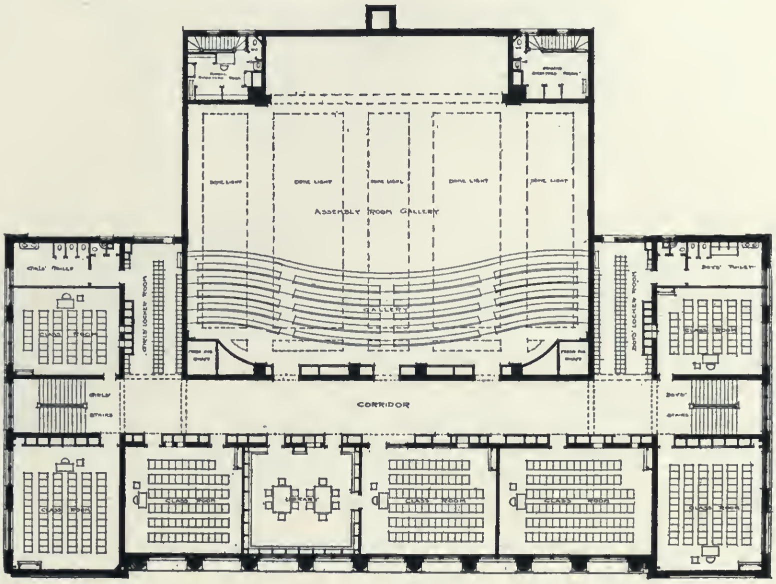
FOURTH FLOOR PLAN,
HIGH SCHOOL,
BLOOMFIELD, N. J.


Skylight over
Revolving
Air Chamber
Dome Light
Dome Light
Dome Light
Dome Light
Dome Light
Girls Toilet
Girls' Locker Room
Typewriting Room
Fresh Air
Fresh Air
Boys' Locker Room
Boys Toilet
Recitation Room
Girls'
Stairs
Corridor
Boys
Stairs
Class Room
Commercial Room
Commercial Room
Counter
Banking Space
Class Room
Class Room
Class Room

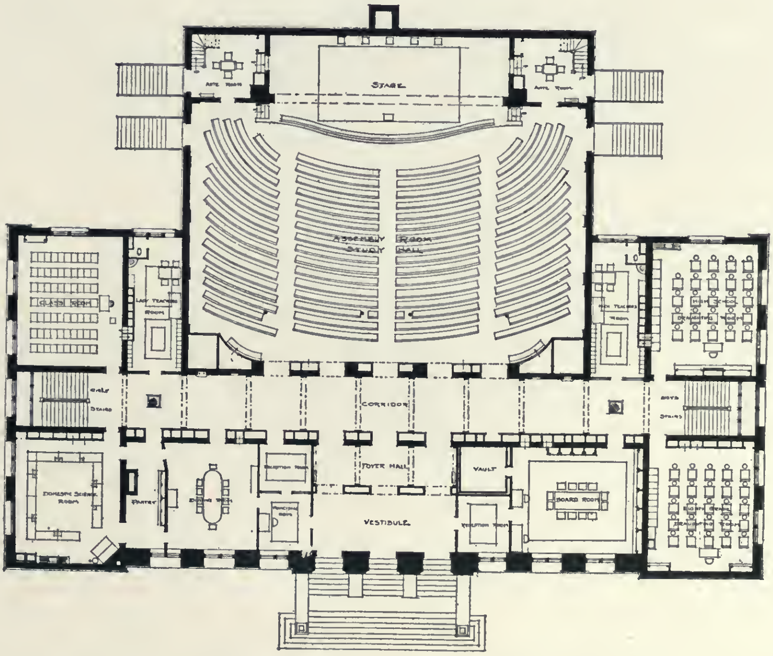
THIRD FLOOR PLAN,
HIGH SCHOOL,
BLOOMFIELD, N. J.



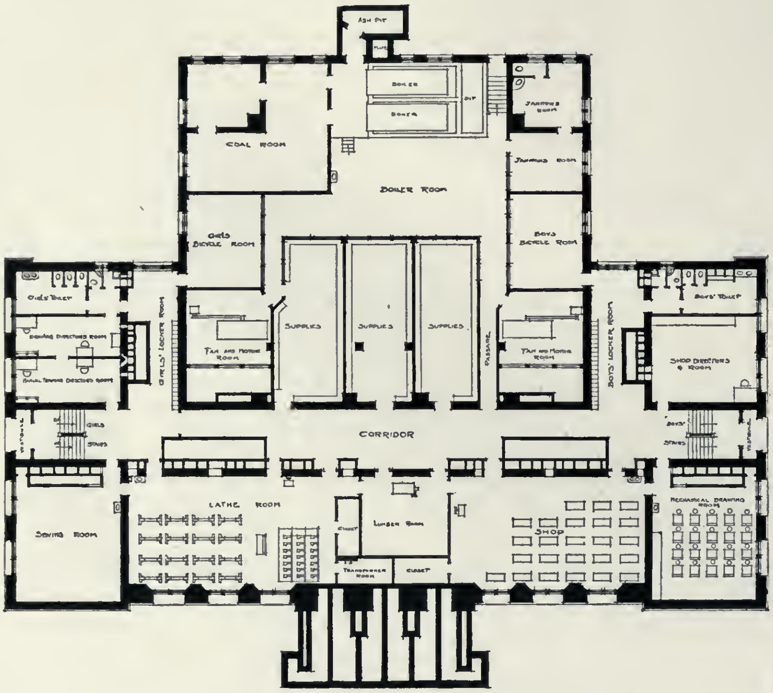
HIGH SCHOOL, BLOOMFIELD, N. J.
C. Granville Jones, Architect, New York, N. Y.


Dome Light
Dome Light
Dome Light
Dome Light
Dome Light
Assembly Room Gallery
Girls' Toilet
Boys' Toilet
Girls' Locker Room
Boys' Locker Room
Class Room
Gallery
Class Room
Girls' Stairs
Corridor
Boys' Stairs
Class Room
Class Room
Library
Class Room
Class Room
Class Room

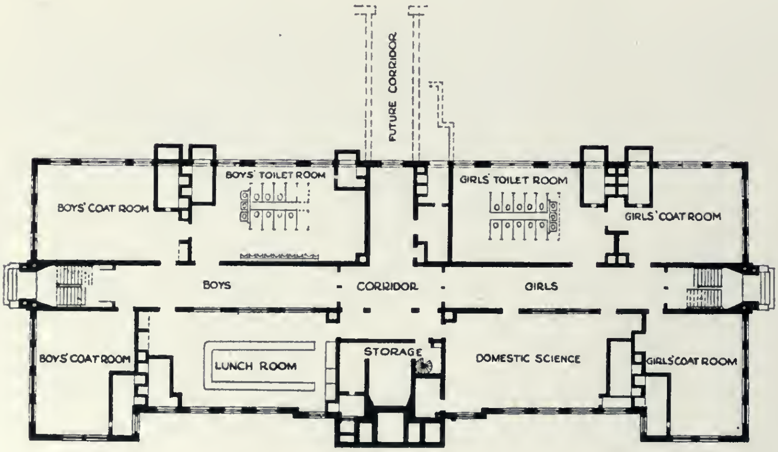
SECOND FLOOR PLAN, HIGH SCHOOL, BLOOMFIELD, N. J.


Ante Room
Stage
Ante Room
Assembly Room
Study Hall
Class Room
Lady Teachers Room
Men Teachers Room
Girls Stairs
Corridor
Boys Stairs
Domestic Science Room
Pantry
Dining Room
Reception Room
Principal Room
Foyer Hall
Vestibule
Vault
Reception Room
Board Room

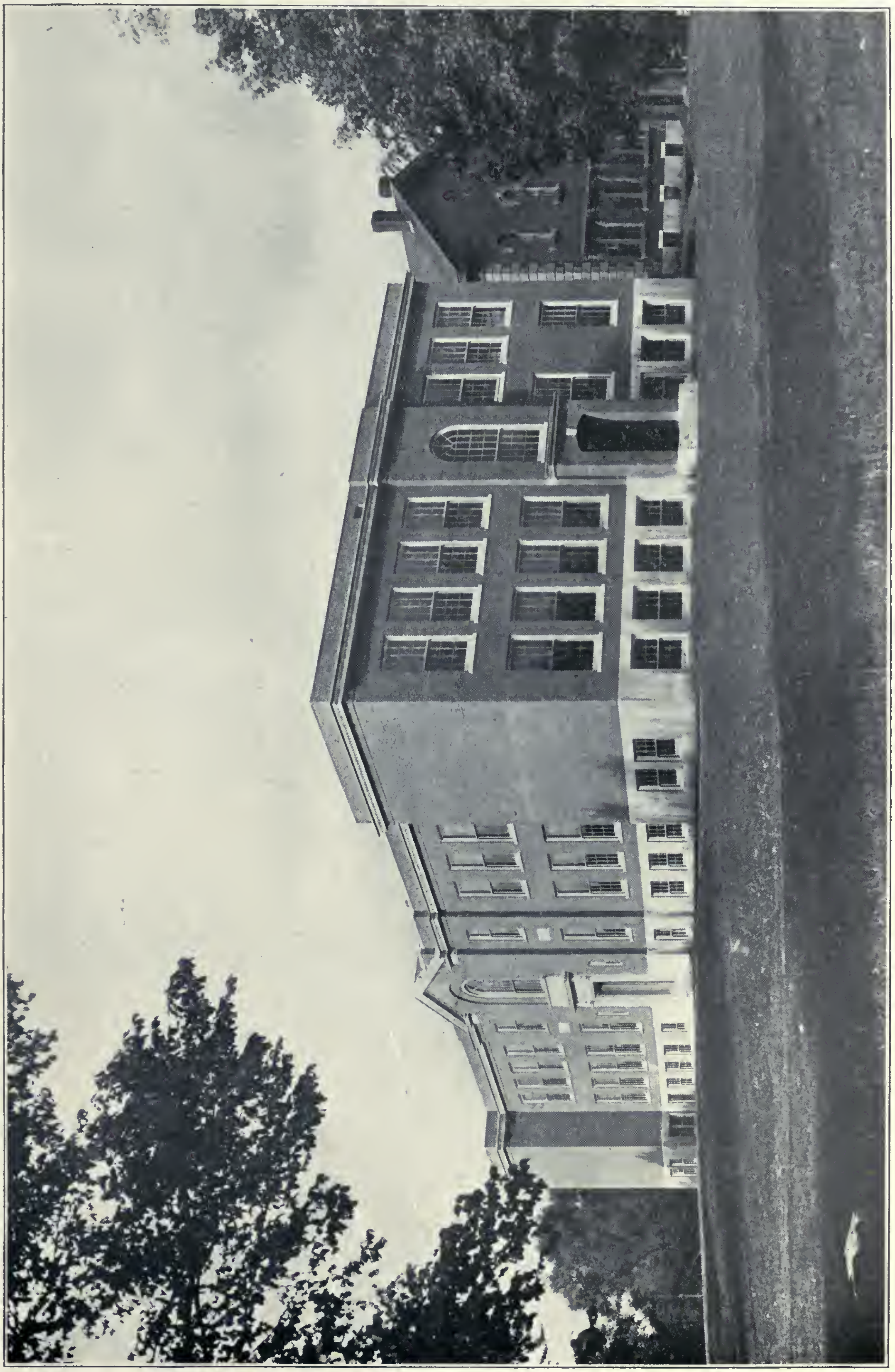
FIRST FLOOR PLAN, HIGH SCHOOL, BLOOMFIELD, N. J.
Chas. Granville Jones, Architect, New York, N. Y.


ASH PIT
BOILER
BOILER
PIT
JANITOR'S ROOM
COAL ROOM
BOILER ROOM
JANITOR'S ROOM
GIRLS BICYCLE ROOM
BOYS BICYCLE ROOM
GIRLS' TOILET
DRAWING DIRECTOR'S ROOM
MANUAL TRAINING DIRECTOR'S ROOM
GIRLS' LOCKER ROOM
FAN AND MOTOR ROOM
SUPPLIES
SUPPLIES
SUPPLIES
PASSAGE
FAN AND MOTOR ROOM
BOYS' LOCKER ROOM
BOYS' TOILET
SHOP DIRECTOR'S ROOM
VESTIBULE
GIRLS' STAIRS
CORRIDOR
BOYS' STAIRS
VESTIBULE
SEWING ROOM
LATHE ROOM
CLOSET
LUMBER ROOM
TRANSFORMER ROOM
CLOSET
SHOP
MECHANICAL DRAWING ROOM

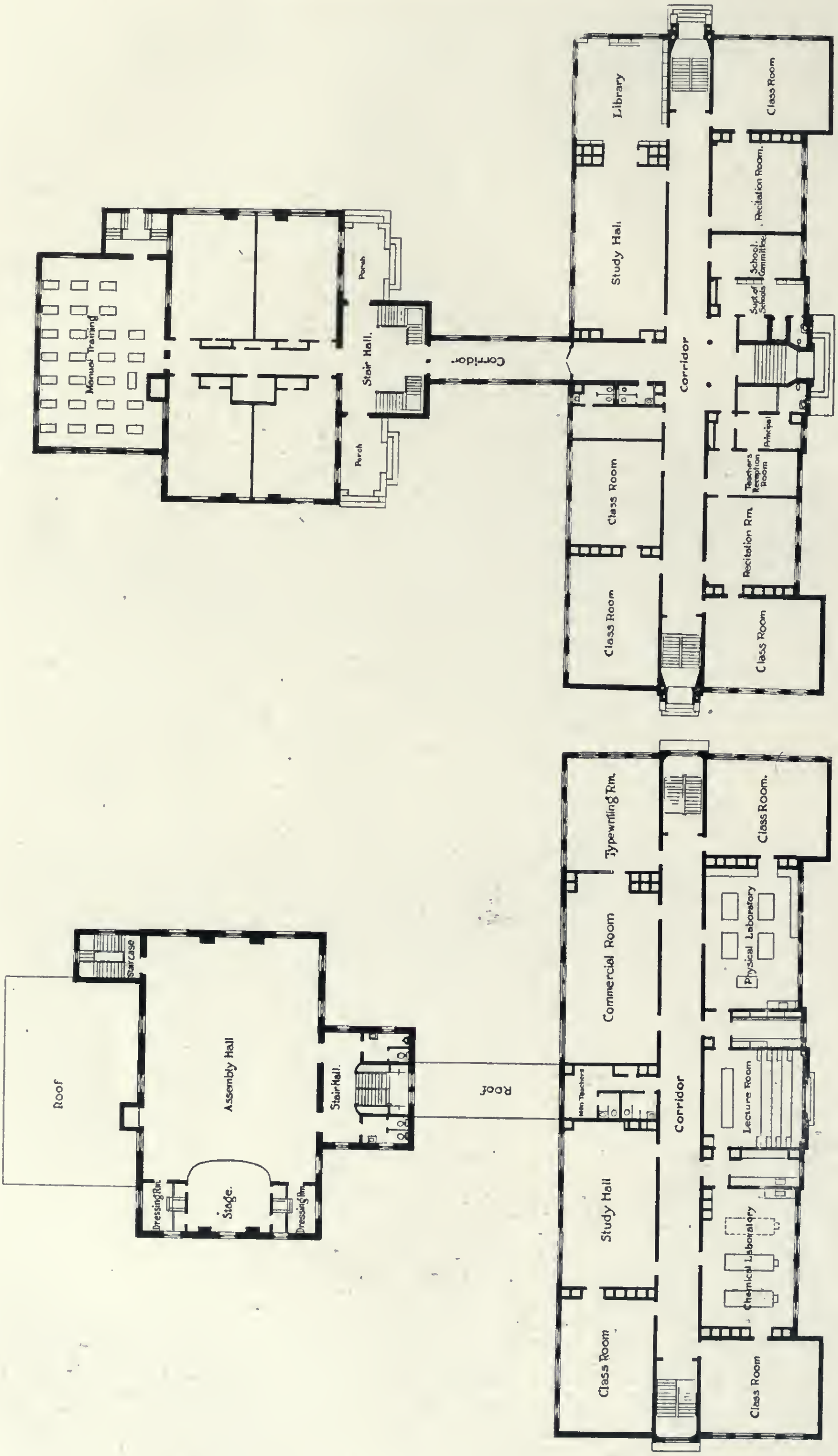
BASEMENT PLAN, HIGH SCHOOL, BLOOMFIELD, N. J.


FUTURE CORRIDOR
BOYS' TOILET ROOM
GIRLS' TOILET ROOM
BOYS' COAT ROOM
GIRLS' COAT ROOM
BOYS
CORRIDOR
GIRLS
BOYS' COAT ROOM
LUNCH ROOM
STORAGE
DOMESTIC SCIENCE
GIRLS' COAT ROOM

BASEMENT PLAN, HIGH SCHOOL, ANDOVER, MASS.
Fisher, Ripley & Le Boutillier, Architects, Boston.



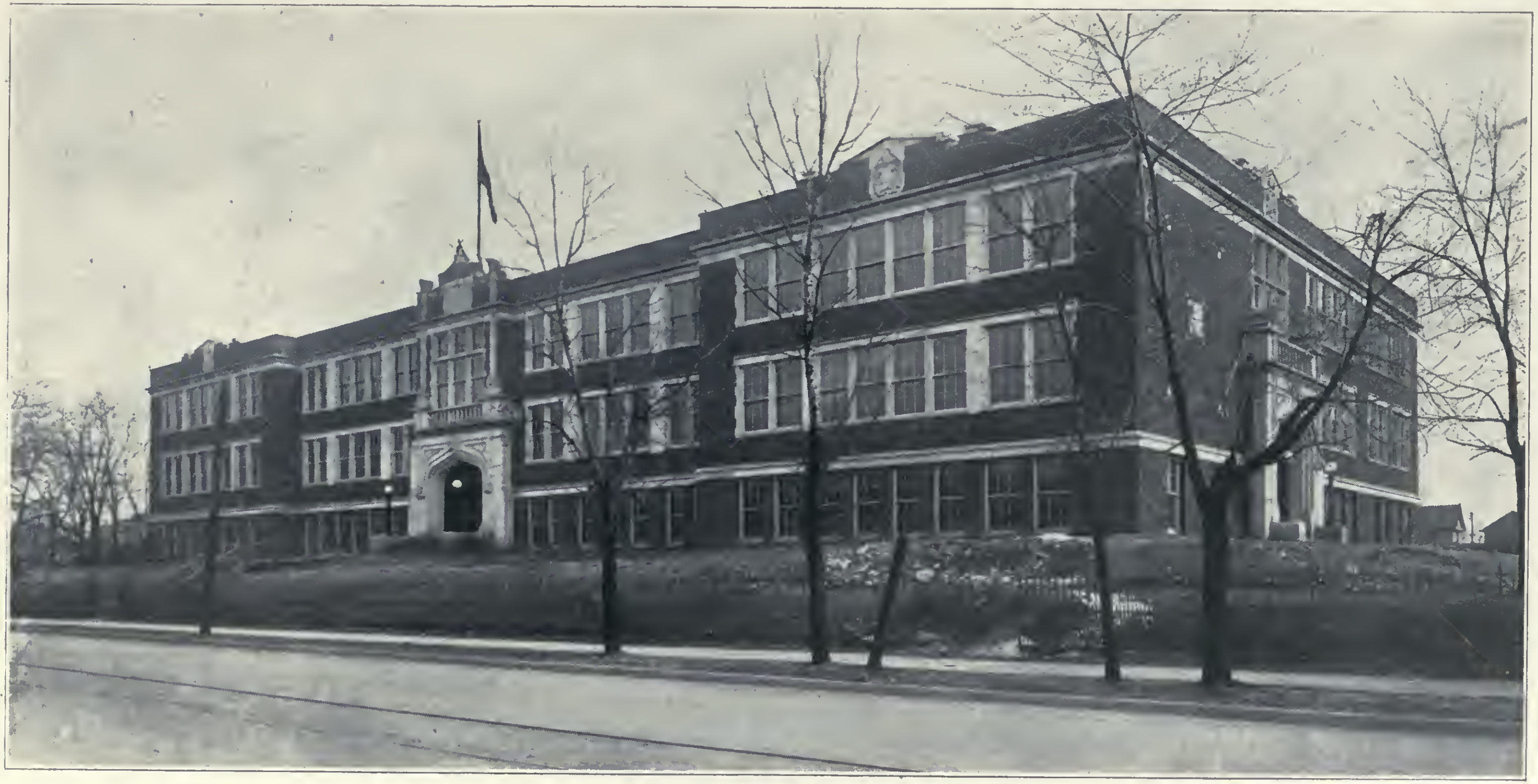
HIGH SCHOOL, ANDOVER, MASS.
Fisher, Ripley & Le Boutillier, Architects, Boston.


Roof
Staircase
Assembly Hall
Stair Hall.
Dressing Rm.
Stage.
Dressing Rm.
Roof
Typewriting Rm.
Class Room.
Commercial Room
Physical Laboratory
Men Teachers
Corridor
Lecture Room
Study Hall
Chemical Laboratory
Class Room
Class Room
Manual Training
Porch
Stair Hall.
Porch
Corridor
Library
Class Room
Recitation Room.
Study Hall
School Committee
Supt. of Schools
Corridor
Principal
Teachers Reception Room
Class Room
Recitation Rm.
Class Room
Class Room

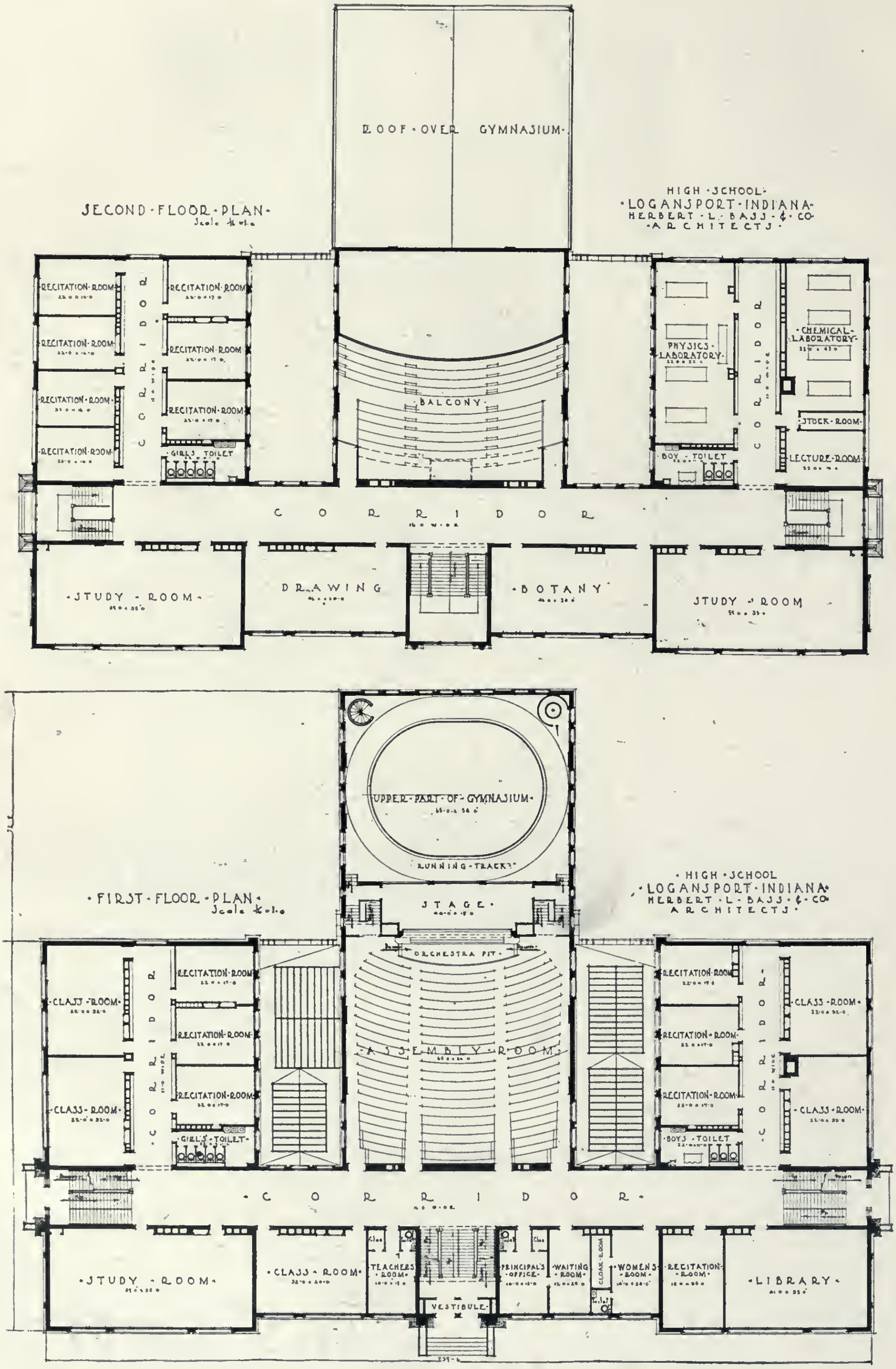
SECOND FLOOR PLAN. FIRST FLOOR PLAN.

FLOOR PLANS, HIGH SCHOOL, ANDOVER, MASS.

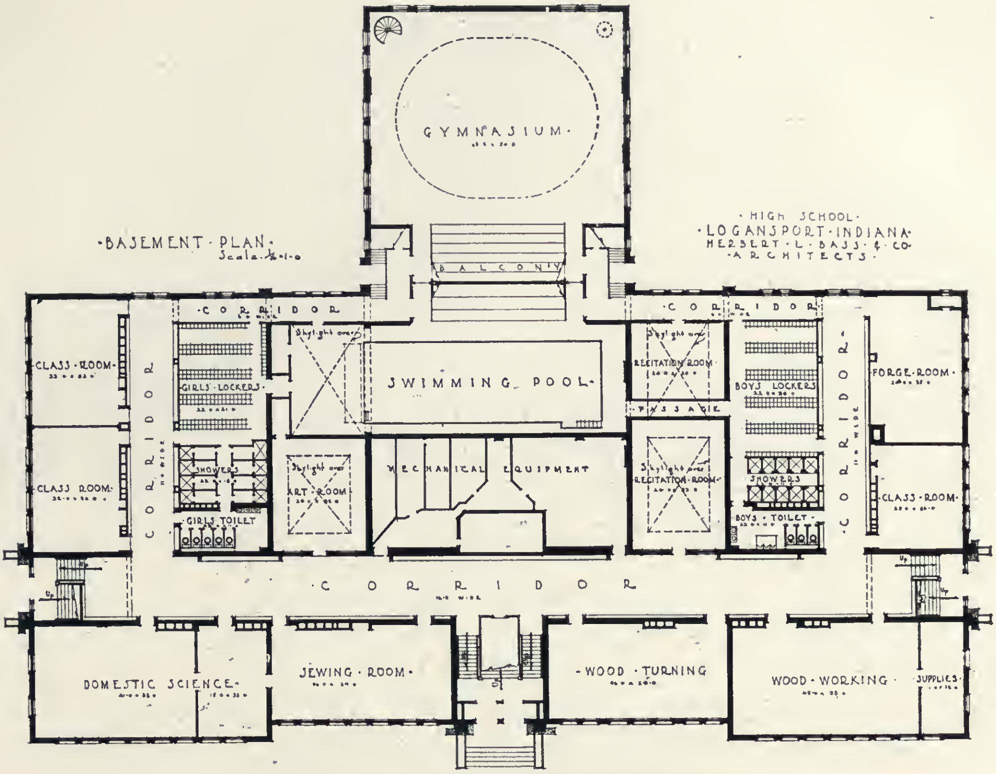
(The rear building is old and is to be replaced at a future date.)



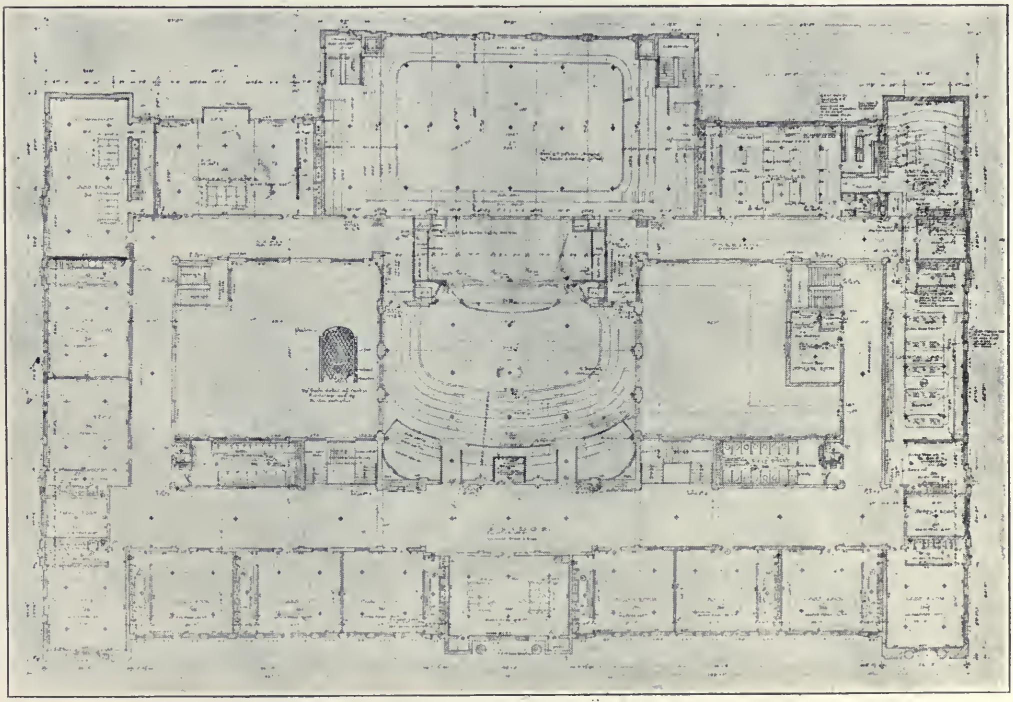
LOGANSPORT HIGH SCHOOL, LOGANSPORT, IND.
Herbert L. Bass & Co., Architects, Indianapolis, Ind.


ROOF · OVER GYMNASIUM ·
SECOND · FLOOR · PLAN ·
HIGH · SCHOOL ·
· LOGANSPORT · INDIANA ·
HERBERT · L · BASS · & · CO ·
· ARCHITECTS ·
RECITATION · ROOM
CORRIDOR
BALCONY
GIRLS TOILET
PHYSICS · LABORATORY
CHEMICAL · LABORATORY
STOCK · ROOM
BOYS · TOILET
LECTURE · ROOM
CORRIDOR
· STUDY · ROOM ·
DRAWING
· BOTANY ·
STUDY · ROOM
UPPER · PART · OF · GYMNASIUM ·
RUNNING · TRACK
STAGE ·
ORCHESTRA PIT
· FIRST · FLOOR · PLAN ·
· HIGH · SCHOOL
· LOGANSPORT · INDIANA ·
HERBERT · L · BASS · & · CO ·
ARCHITECTS ·
· CLASS · ROOM ·
RECITATION · ROOM
· ASSEMBLY · ROOM ·
GIRLS' · TOILET ·
BOYS · TOILET
· CORRIDOR ·
· STUDY · ROOM ·
· CLASS · ROOM ·
TEACHERS · ROOM ·
VESTIBULE
PRINCIPAL'S · OFFICE ·
· WAITING · ROOM ·
CLOAK · ROOM
· WOMENS · ROOM ·
· RECITATION · ROOM ·
· LIBRARY ·

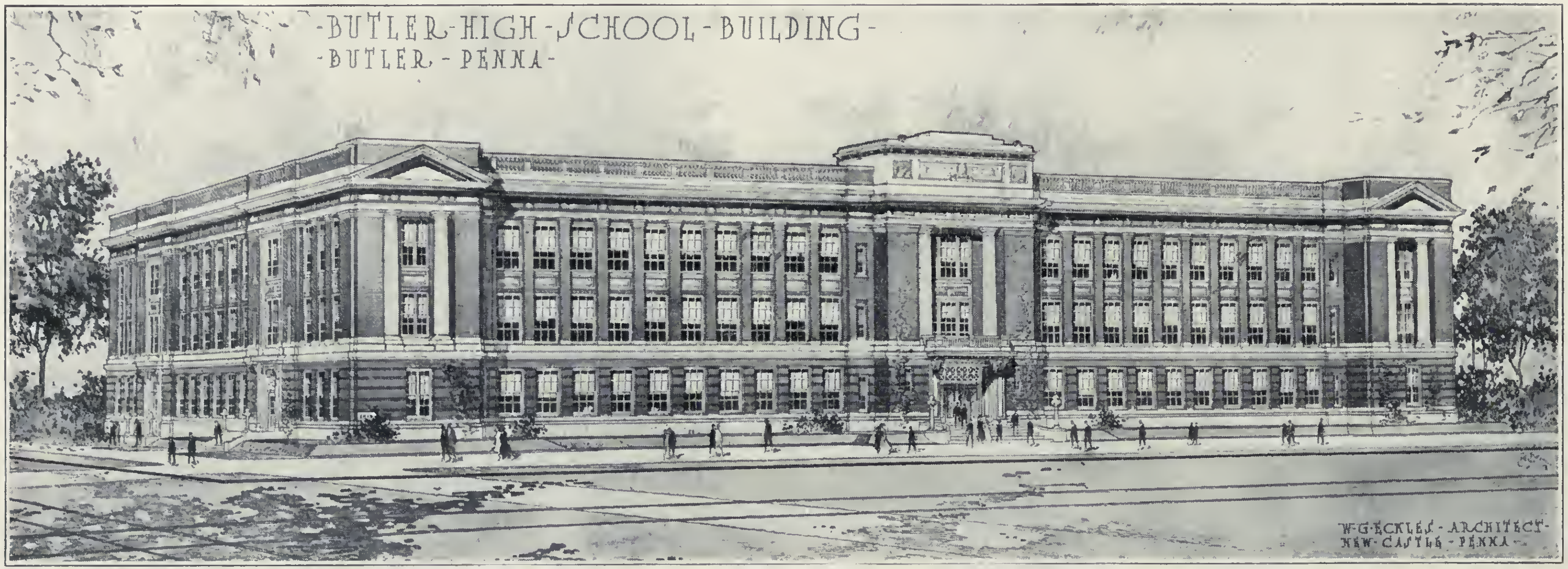
FLOOR PLANS, LOGANSPORT HIGH SCHOOL.


·BASEMENT · PLAN·
Scale ⅛"=1'-0
·HIGH SCHOOL·
·LOGANSPORT·INDIANA·
HERBERT · L · BASS · & · CO·
·ARCHITECTS·
GYMNASIUM·
BALCONY
CORRIDOR
CORRIDOR
CLASS·ROOM·
CLASS ROOM·
CORRIDOR
GIRLS·LOCKERS·
SHOWERS
GIRLS TOILET
Skylight over
ART·ROOM
SWIMMING POOL·
MECHANICAL EQUIPMENT
Skylight over
RECITATION ROOM·
PASSAGE
Skylight over
RECITATION·ROOM·
BOYS LOCKERS
SHOWERS
BOYS · TOILET ·
CORRIDOR·
FORGE·ROOM·
CLASS·ROOM·
CORRIDOR
DOMESTIC SCIENCE·
SEWING · ROOM·
·WOOD · TURNING
WOOD · WORKING ·
SUPPLIES·

BASEMENT PLAN, LOGANSPORT HIGH SCHOOL.

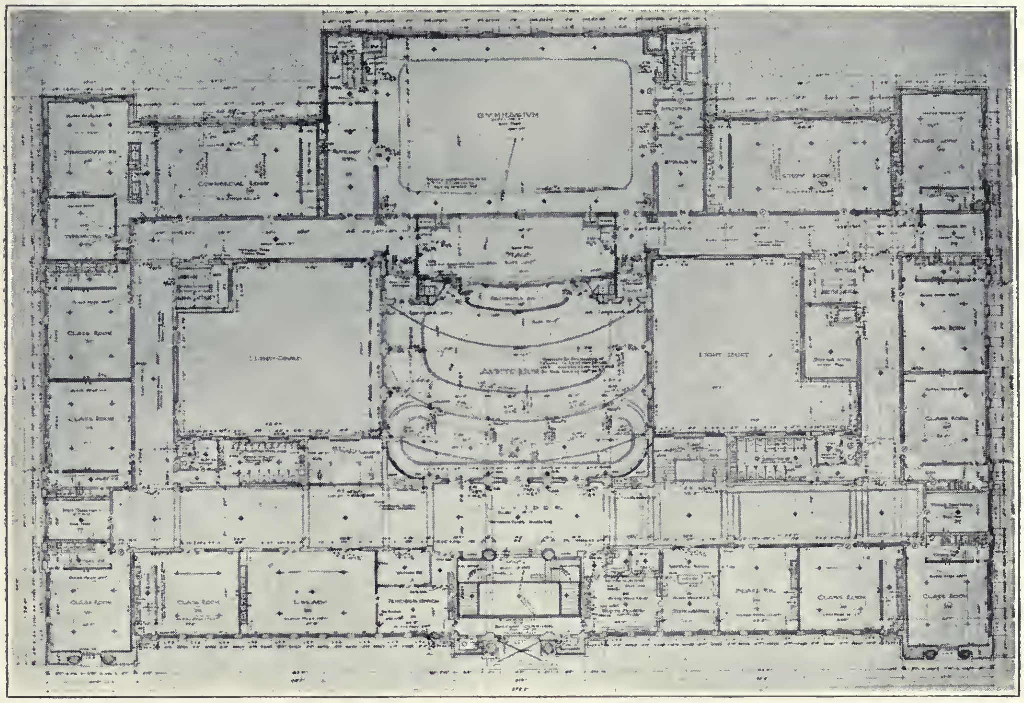


THIRD FLOOR PLAN, HIGH SCHOOL, BUTLER, PA.

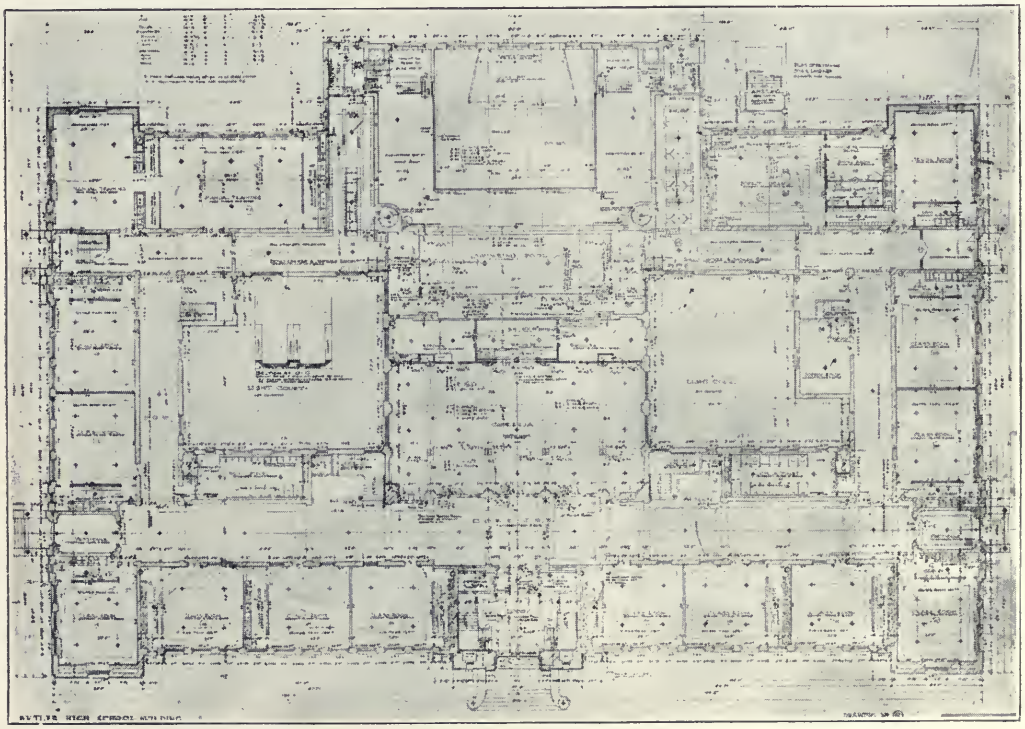

-BUTLER-HIGH-SCHOOL-BUILDING-
-BUTLER-PENNA-
W·G·ECKLES-ARCHITECT-
NEW-CASTLE-PENNA-

HIGH SCHOOL. BUTLER, PA.

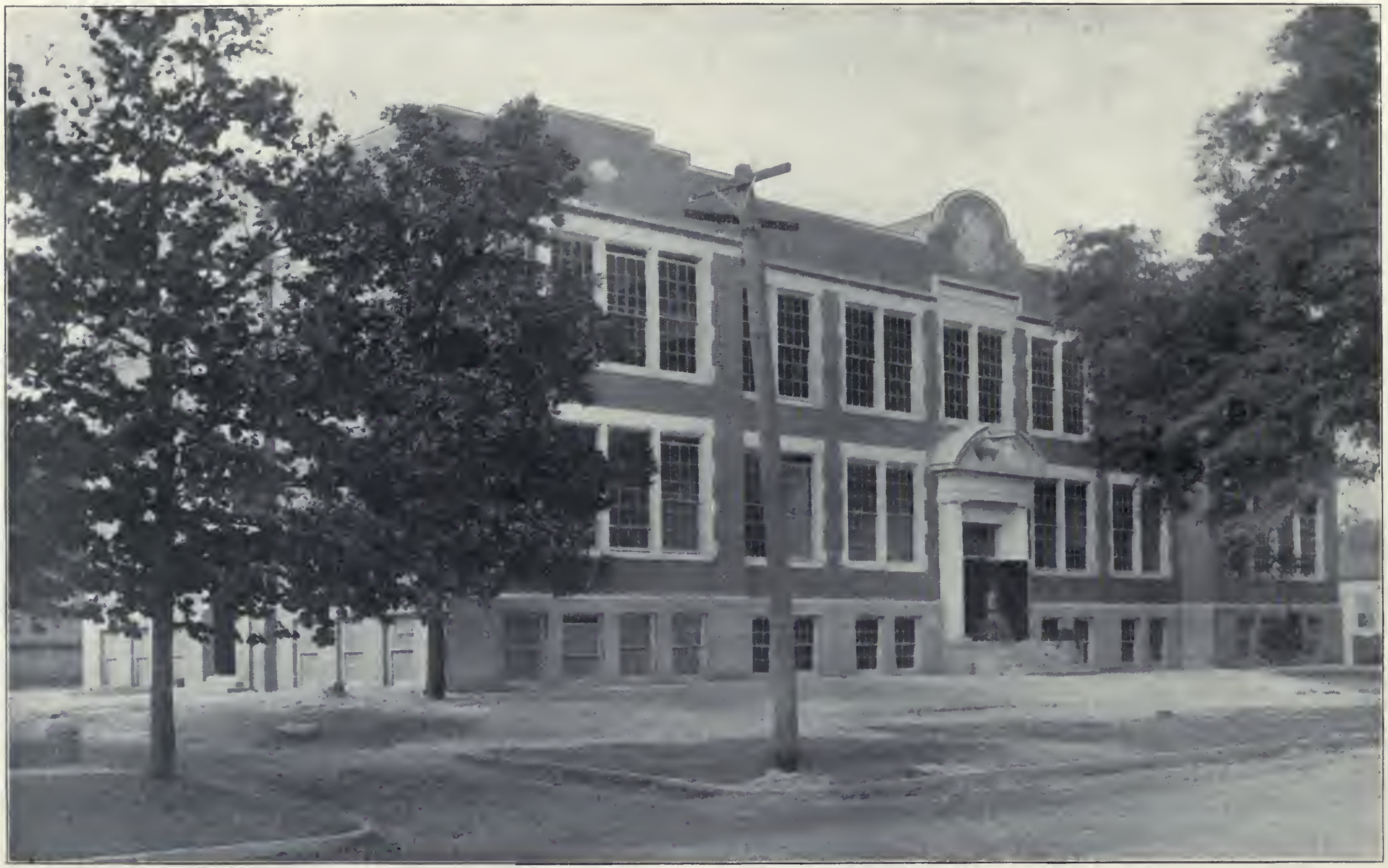
W. G. Eckles, Architect, New Castle, Pa.



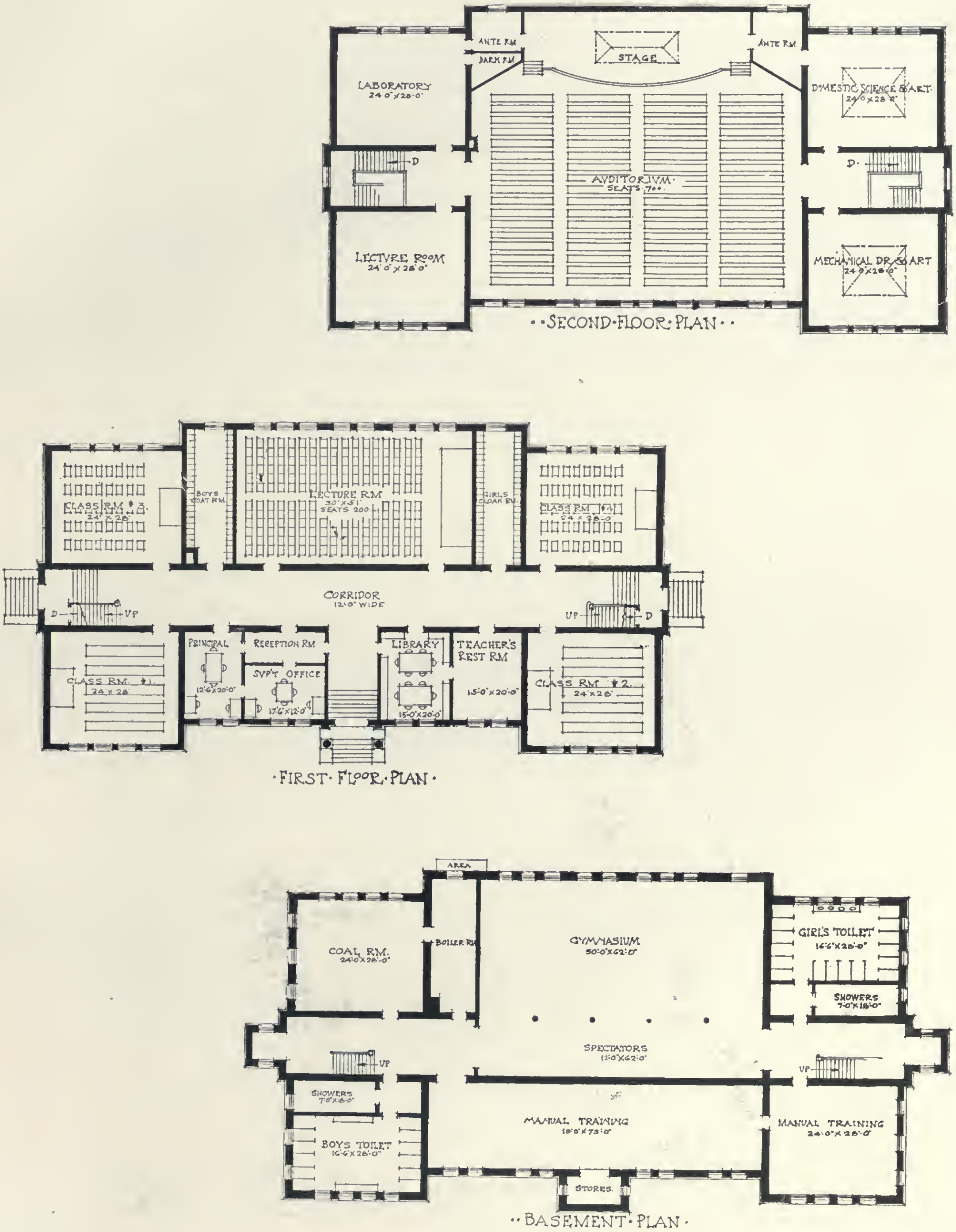
SECOND FLOOR PLAN, HIGH SCHOOL, BUTLER, PA.



FIRST FLOOR PLAN, HIGH SCHOOL, BUTLER, PA.
W. G. Eckles, Architect, New Castle, Pa.

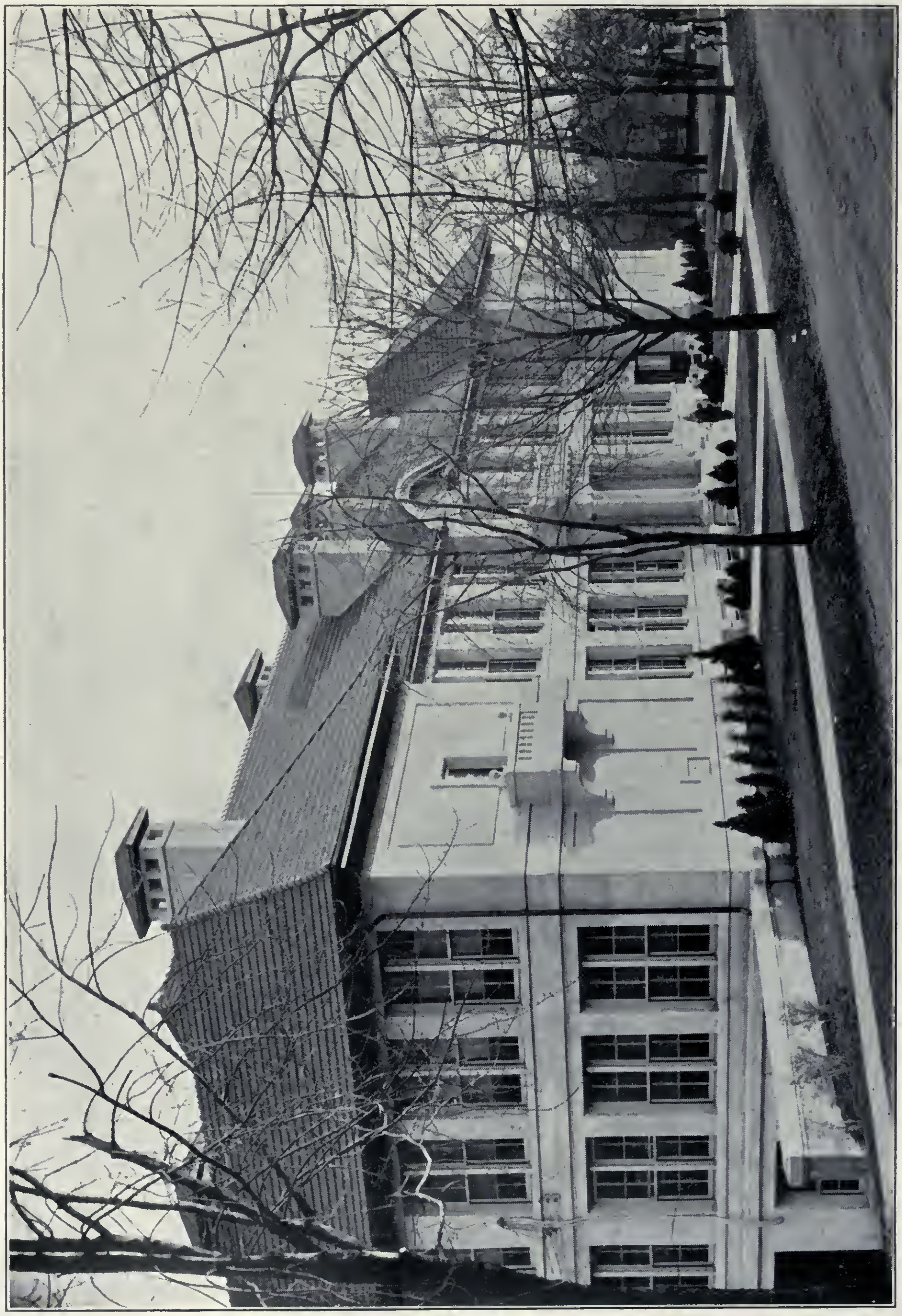


HIGH SCHOOL, SELMA, ALA.
W. T. Warren, Architect, Birmingham, Ala.

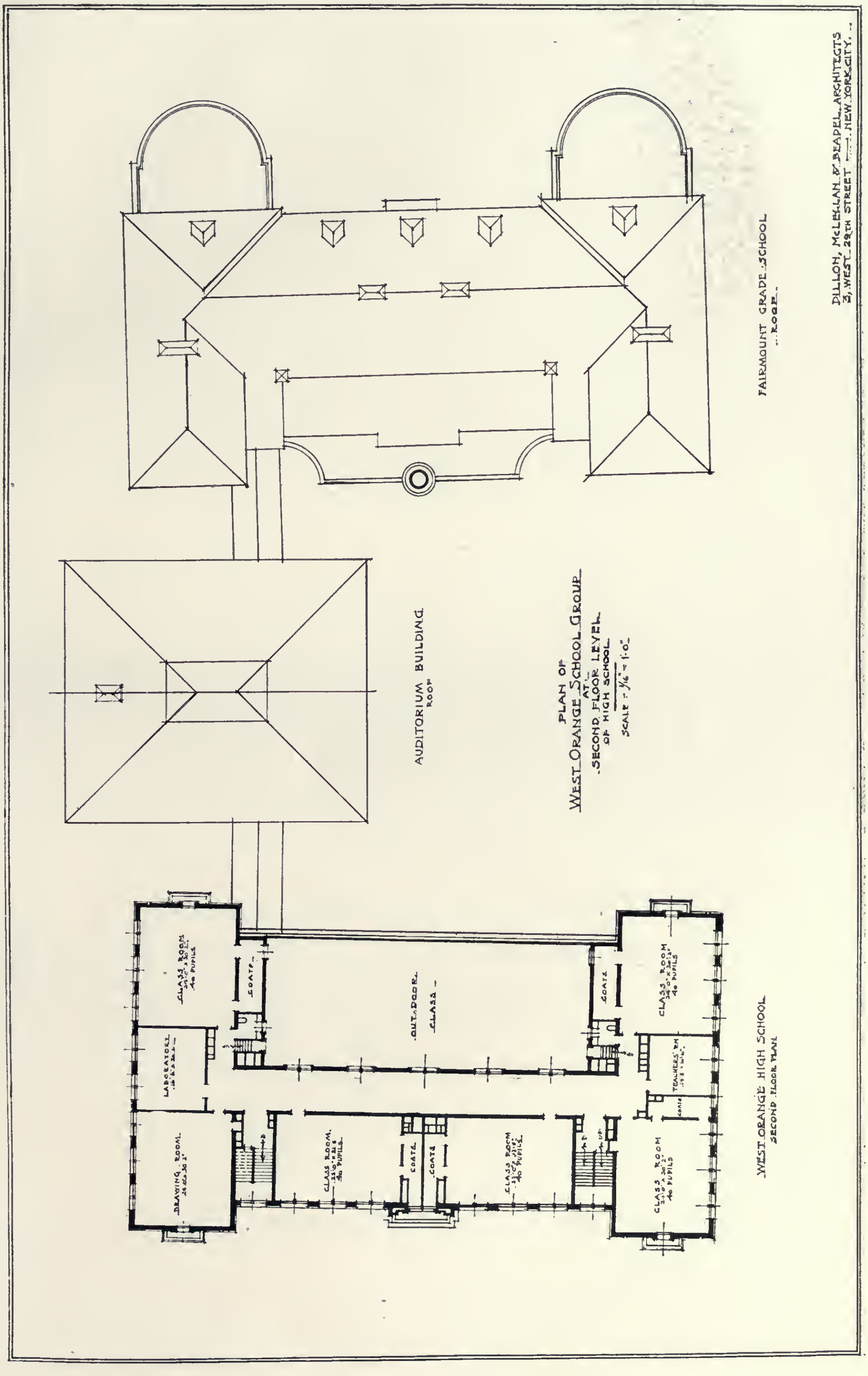

ANTE RM
DARK RM
STAGE
ANTE RM
LABORATORY
24'0"x28'0"
DOMESTIC SCIENCE & ART
24'0"x28'0"
AUDITORIUM
SEATS 700
D
LECTURE ROOM
24'0"x28'0"
MECHANICAL DR. & ART
24'0"x28'0"
SECOND FLOOR PLAN
CLASS RM #3
24'x28'
BOYS COAT RM
LECTURE RM
30'x51'
SEATS 200
GIRLS CLOAK RM
CLASS RM #4
24'x28'0"
CORRIDOR
12'0" WIDE
UP
D
PRINCIPAL
12'6"x20'0"
RECEPTION RM
SUP'T OFFICE
17'6"x12'0"
LIBRARY
15'0"x20'0"
TEACHER'S REST RM
15'0"x20'0"
CLASS RM #1
24'x28'
CLASS RM #2
24'x28'
FIRST FLOOR PLAN
AREA
COAL RM.
24'0"x28'0"
BOILER RM
GYMNASIUM
50'0"x62'0"
GIRL'S TOILET
16'6"x28'0"
SHOWERS
7'0"x18'0"
SPECTATORS
12'0"x62'0"
UP
SHOWERS
7'0"x16'0"
BOYS TOILET
16'6"x28'0"
MANUAL TRAINING
18'0"x73'0"
MANUAL TRAINING
24'0"x28'0"
STORES
BASEMENT PLAN

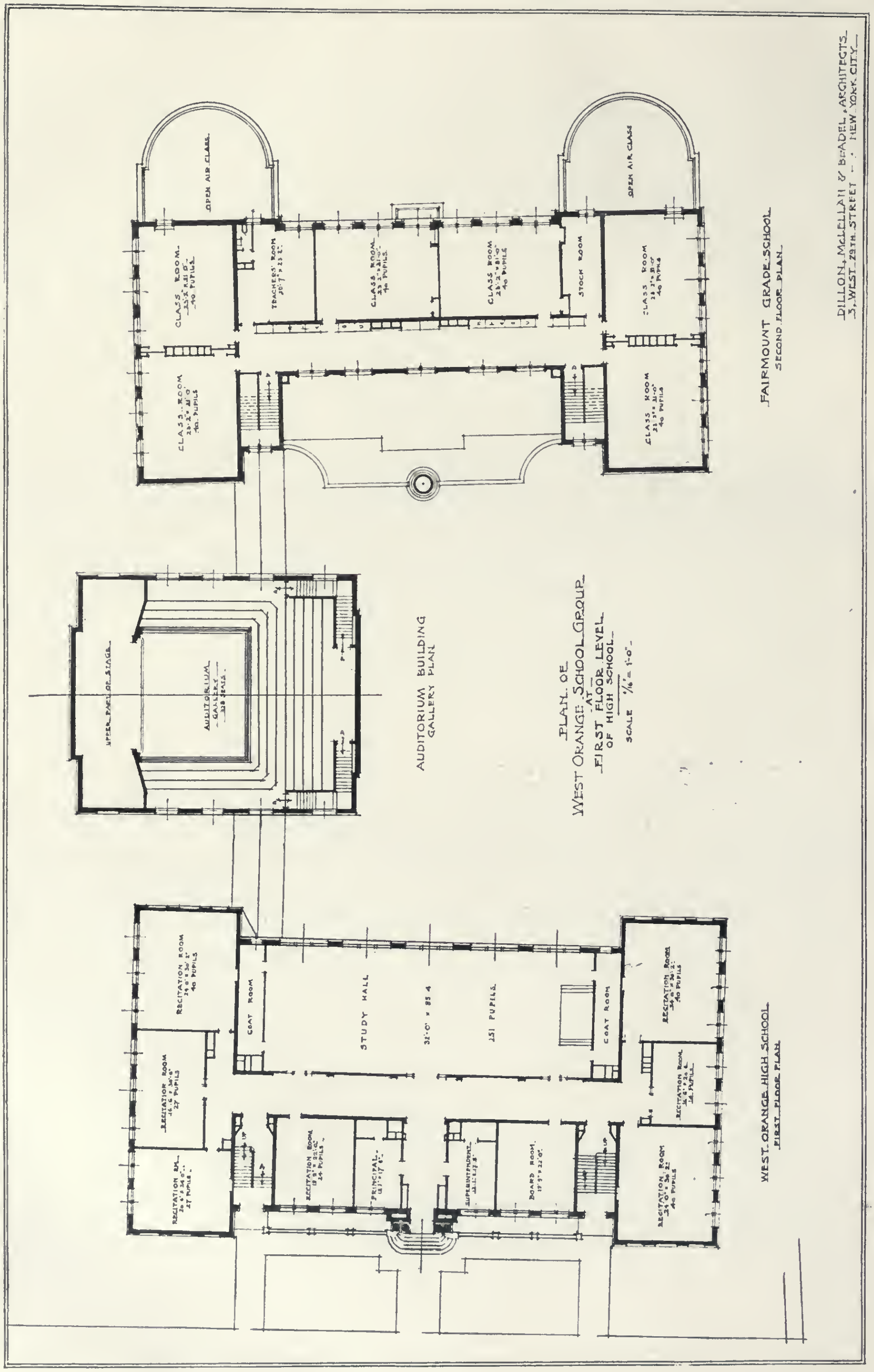
FLOOR PLANS, HIGH SCHOOL, SELMA, ALA.

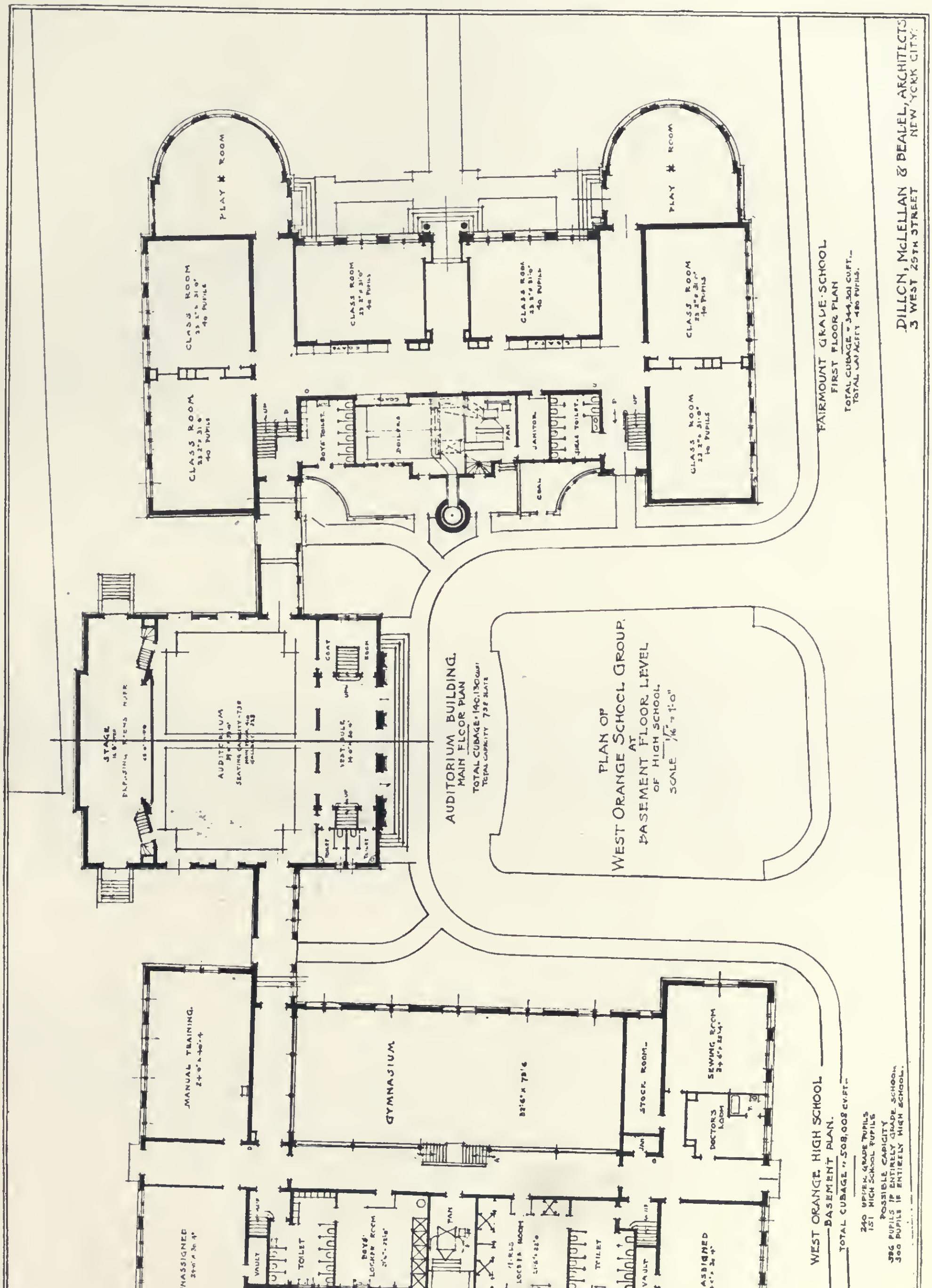
W. T. Warren, Architect, Birmingham, Ala.

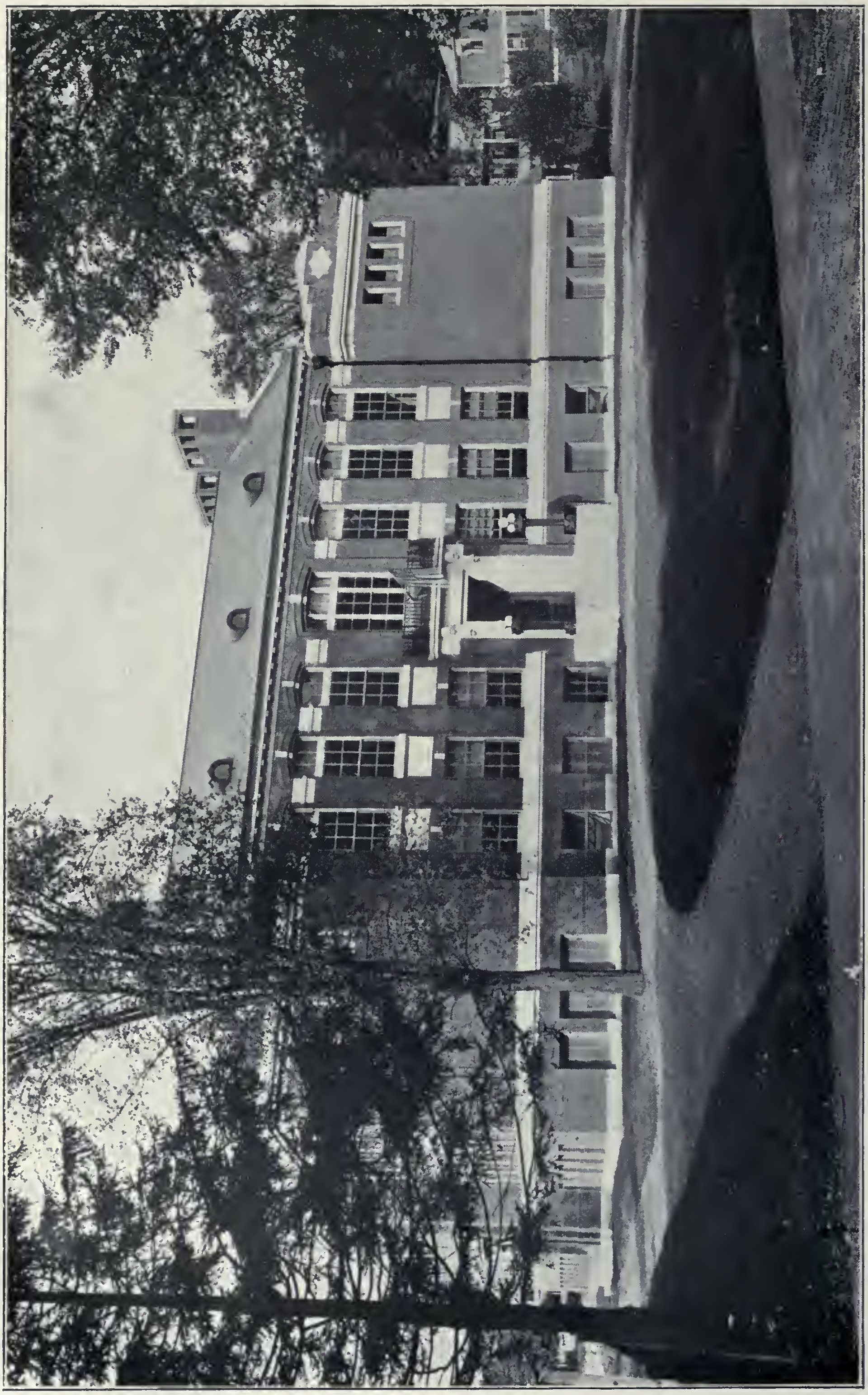


HIGH SCHOOL, WEST ORANGE, N. J.
Dillon, McLellan & Beadel, Architects, New York, N. Y.

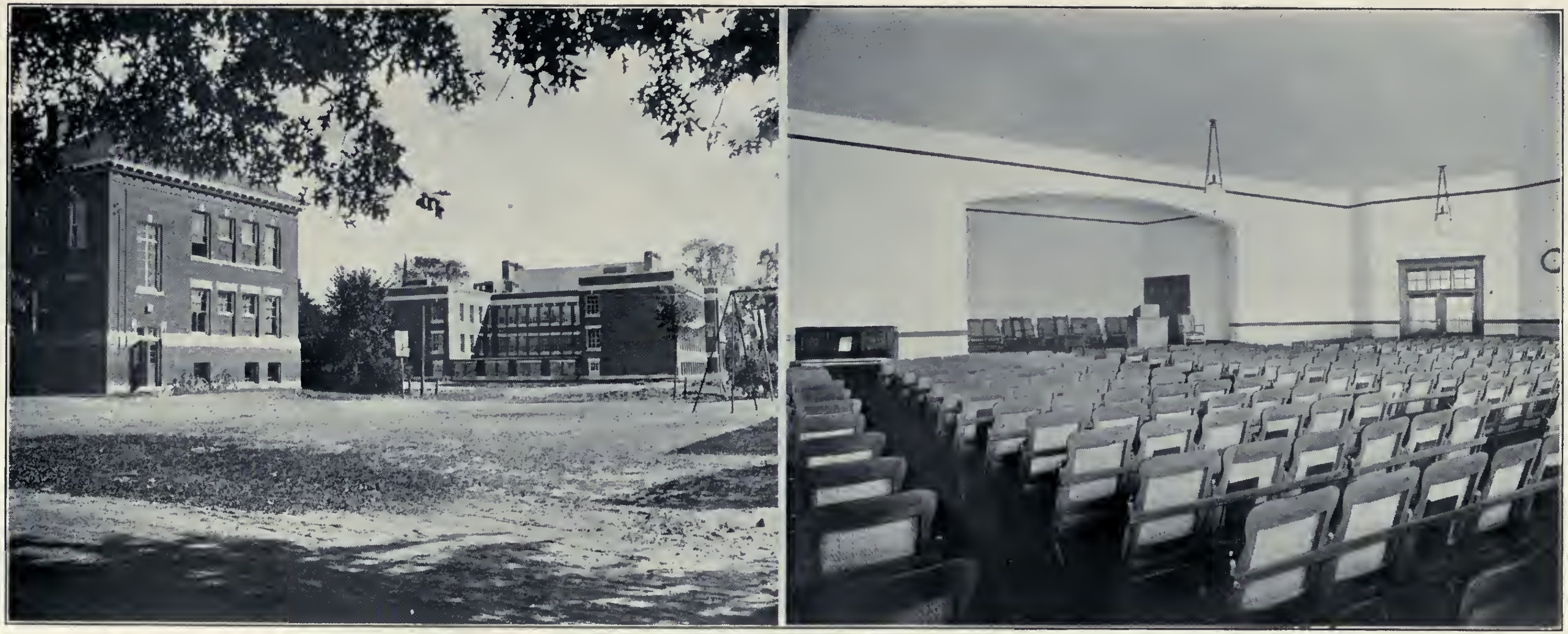

DILLON, McLELLAN & BEADEL, ARCHITECTS
3, WEST 29TH STREET — NEW YORK CITY.
FAIRMOUNT GRADE SCHOOL
ROOF.
AUDITORIUM BUILDING
ROOF
PLAN OF
WEST ORANGE SCHOOL GROUP
AT
SECOND FLOOR LEVEL
OF HIGH SCHOOL
SCALE = 1/16" = 1'-0"
WEST ORANGE HIGH SCHOOL
SECOND FLOOR PLAN
CLASS ROOM
40 PUPILS
COATS
OUT-DOOR CLASS
COATS
CLASS ROOM
40 PUPILS
LABORATORY
TEACHERS' RM
COATS
DRAWING ROOM
CLASS ROOM
40 PUPILS
COATS
COATS
CLASS ROOM
40 PUPILS
D
UP
CLASS ROOM
40 PUPILS

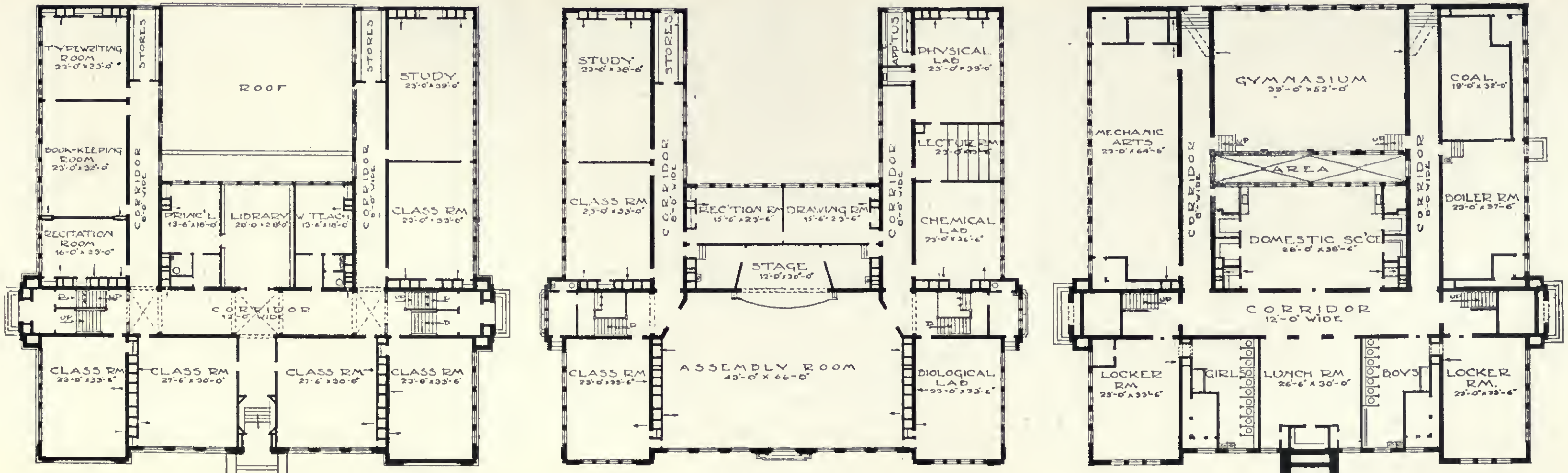

OPEN AIR CLASS
CLASS ROOM 40 PUPILS
TEACHERS' ROOM
CLASS ROOM 40 PUPILS
CLASS ROOM 40 PUPILS
STOCK ROOM
OPEN AIR CLASS
CLASS ROOM 40 PUPILS
CLASS ROOM 40 PUPILS
CLASS ROOM 40 PUPILS
FAIRMOUNT GRADE SCHOOL
SECOND FLOOR PLAN
DILLON, McLELLAN & BEADEL, ARCHITECTS
3, WEST 29TH STREET NEW YORK CITY
UPPER PART OF STAGE
AUDITORIUM GALLERY 328 SEATS
AUDITORIUM BUILDING
GALLERY PLAN
PLAN OF
WEST ORANGE SCHOOL GROUP
AT
FIRST FLOOR LEVEL
OF HIGH SCHOOL
SCALE 1/16" = 1'-0"
RECITATION ROOM 40 PUPILS
RECITATION ROOM 27 PUPILS
RECITATION RM. 27 PUPILS
COAT ROOM
STUDY HALL
32'-0" × 85'-4
151 PUPILS
COAT ROOM
RECITATION ROOM 40 PUPILS
RECITATION ROOM 16 PUPILS
RECITATION ROOM 24 PUPILS
PRINCIPAL
SUPERINTENDENT
BOARD ROOM
RECITATION ROOM 40 PUPILS
UP
UP
WEST ORANGE HIGH SCHOOL
FIRST FLOOR PLAN


PLAN OF
WEST ORANGE SCHOOL GROUP
AT
BASEMENT FLOOR LEVEL
OF HIGH SCHOOL
SCALE 1/16" = 1'-0"
FAIRMOUNT GRADE SCHOOL
FIRST FLOOR PLAN
TOTAL CUBAGE = 344,301 CU.FT.
TOTAL CAPACITY 480 PUPILS.
DILLON, McLELLAN & BEADEL, ARCHITECTS
3 WEST 29TH STREET NEW YORK CITY.
AUDITORIUM BUILDING
MAIN FLOOR PLAN
TOTAL CUBAGE = 140,130 CU.FT.
TOTAL CAPACITY 730 SEATS
WEST ORANGE HIGH SCHOOL
BASEMENT PLAN.
TOTAL CUBAGE = 508,008 CU.FT.
240 UPPER GRADE PUPILS
151 HIGH SCHOOL PUPILS
POSSIBLE CAPACITY
396 PUPILS IF ENTIRELY GRADE SCHOOL
300 PUPILS IF ENTIRELY HIGH SCHOOL.
PLAY ROOM
PLAY ROOM
CLASS ROOM 23'2" x 31'0" 40 PUPILS
CLASS ROOM 23'2" x 31'0" 40 PUPILS
CLASS ROOM 23'2" x 31'0" 40 PUPILS
CLASS ROOM 23'2" x 31'0" 40 PUPILS
CLASS ROOM 23'2" x 31'0" 40 PUPILS
CLASS ROOM 23'2" x 31'0" 40 PUPILS
BOYS TOILET
BOILERS
FAN
JANITOR
GIRLS TOILET
COAL
UP
STAGE
DRESSING ROOMS UNDER
AUDITORIUM
SEATING CAPACITY - 730
VESTIBULE
COAT ROOM
TOILET
TOILET
MANUAL TRAINING 24'0" x 40'4"
GYMNASIUM 83'6" x 73'6"
STOCK ROOM
SEWING ROOM
DOCTOR'S ROOM
JAN
UNASSIGNED
UNASSIGNED
VAULT
VAULT
TOILET
TOILET
BOYS' LOCKER ROOM
GIRLS LOCKER ROOM
FAN



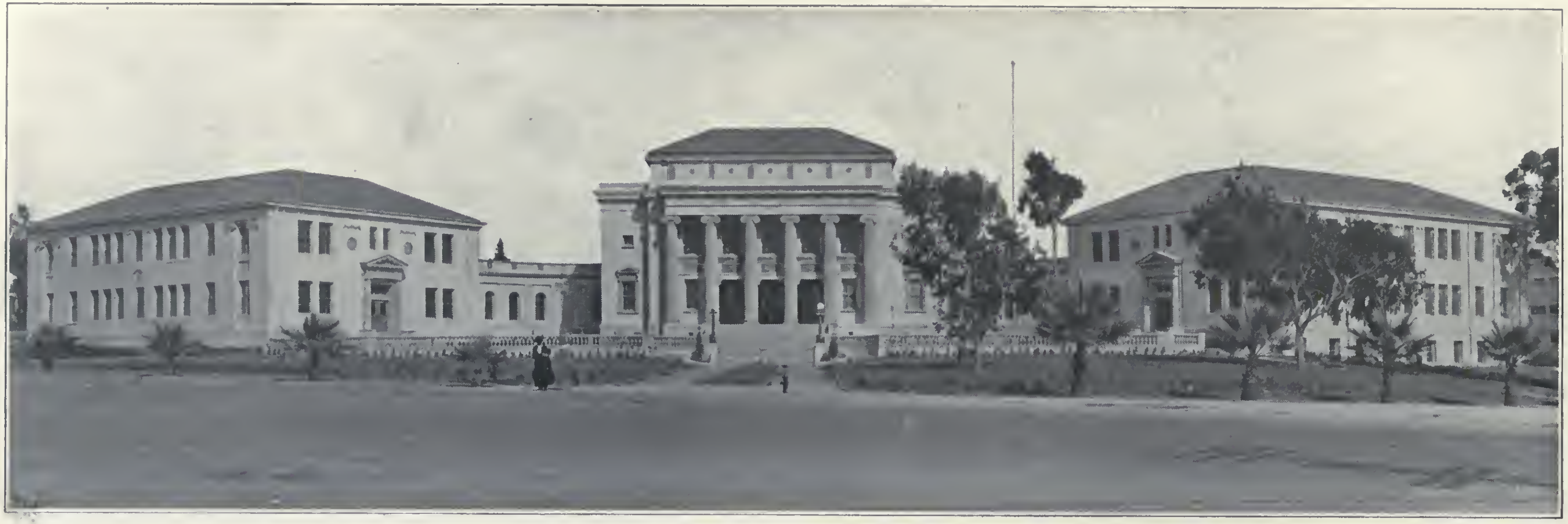
HIGH SCHOOL, AMHERST, MASS.
Clarence P. Hoyt, Architect, Boston, Mass.




TYPEWRITING ROOM 23'-0" x 23'-0"
STORES
ROOF
STORES
STUDY 23'-0" x 39'-0"
BOOK-KEEPING ROOM 23'-0" x 32'-0"
CORRIDOR 8'-0" WIDE
PRINC'L 13'-6" x 18'-0"
LIBRARY 20'-0" x 28'-0"
W. TEACH. 13'-6" x 18'-0"
CORRIDOR 8'-0" WIDE
CLASS RM 23'-0" x 33'-0"
RECITATION ROOM 16'-0" x 23'-0"
D
UP
UP
CORRIDOR 12'-0" WIDE
UP
D
D
CLASS RM 23'-0" x 33'-6"
CLASS RM 27'-6" x 30'-0"
CLASS RM 27'-6" x 30'-0"
CLASS RM 23'-0" x 33'-6"
STUDY 23'-0" x 38'-6"
STORES
APP'TUS
PHYSICAL LAB 23'-0" x 39'-0"
LECTURE RM 23'-0" x 40'-6"
CORRIDOR 8'-0" WIDE
CLASS RM 23'-0" x 33'-0"
RECITATION RM 15'-6" x 23'-6"
DRAWING RM 15'-6" x 23'-6"
CORRIDOR 8'-0" WIDE
CHEMICAL LAB 23'-0" x 26'-6"
STAGE 12'-0" x 30'-0"
D
D
CLASS RM 23'-0" x 33'-6"
ASSEMBLY ROOM 43'-0" x 66'-0"
BIOLOGICAL LAB 23'-0" x 33'-6"
GYMNASIUM 33'-0" x 52'-0"
COAL 19'-0" x 32'-0"
MECHANIC ARTS 23'-0" x 64'-6"
CORRIDOR 8'-0" WIDE
UP
UP
AREA
CORRIDOR 8'-0" WIDE
BOILER RM 23'-0" x 37'-6"
DOMESTIC SC'CE 28'-0" x 38'-6"
UP
UP
CORRIDOR 12'-0" WIDE
LOCKER RM 23'-0" x 33'-6"
GIRLS
LUNCH RM 26'-6" x 30'-0"
BOYS
LOCKER RM. 23'-0" x 33'-6"

·FIRST FLOOR PLAN ·SECOND FLOOR PLAN· ·BASEMENT PLAN·

PLANS AND VIEWS OF THE HIGH SCHOOL, AMHERST, MASS.



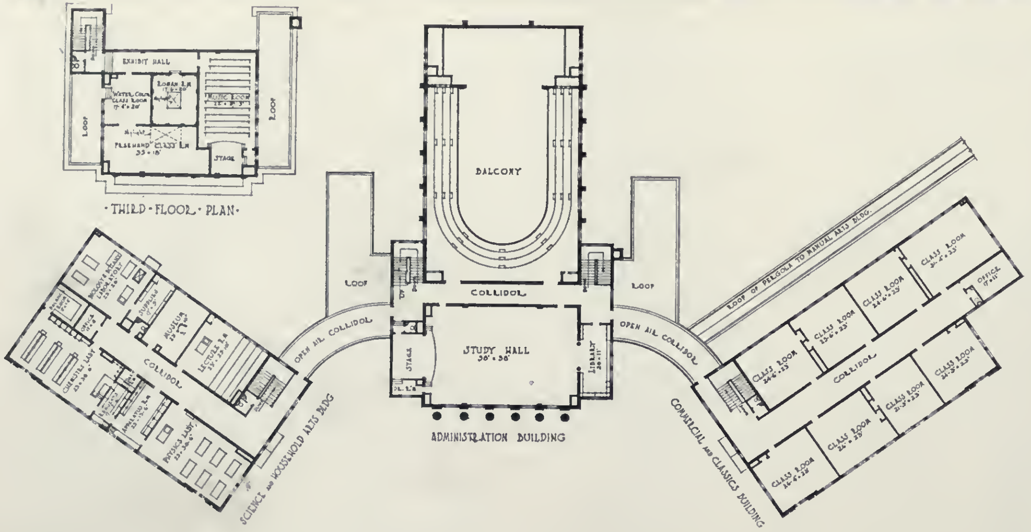
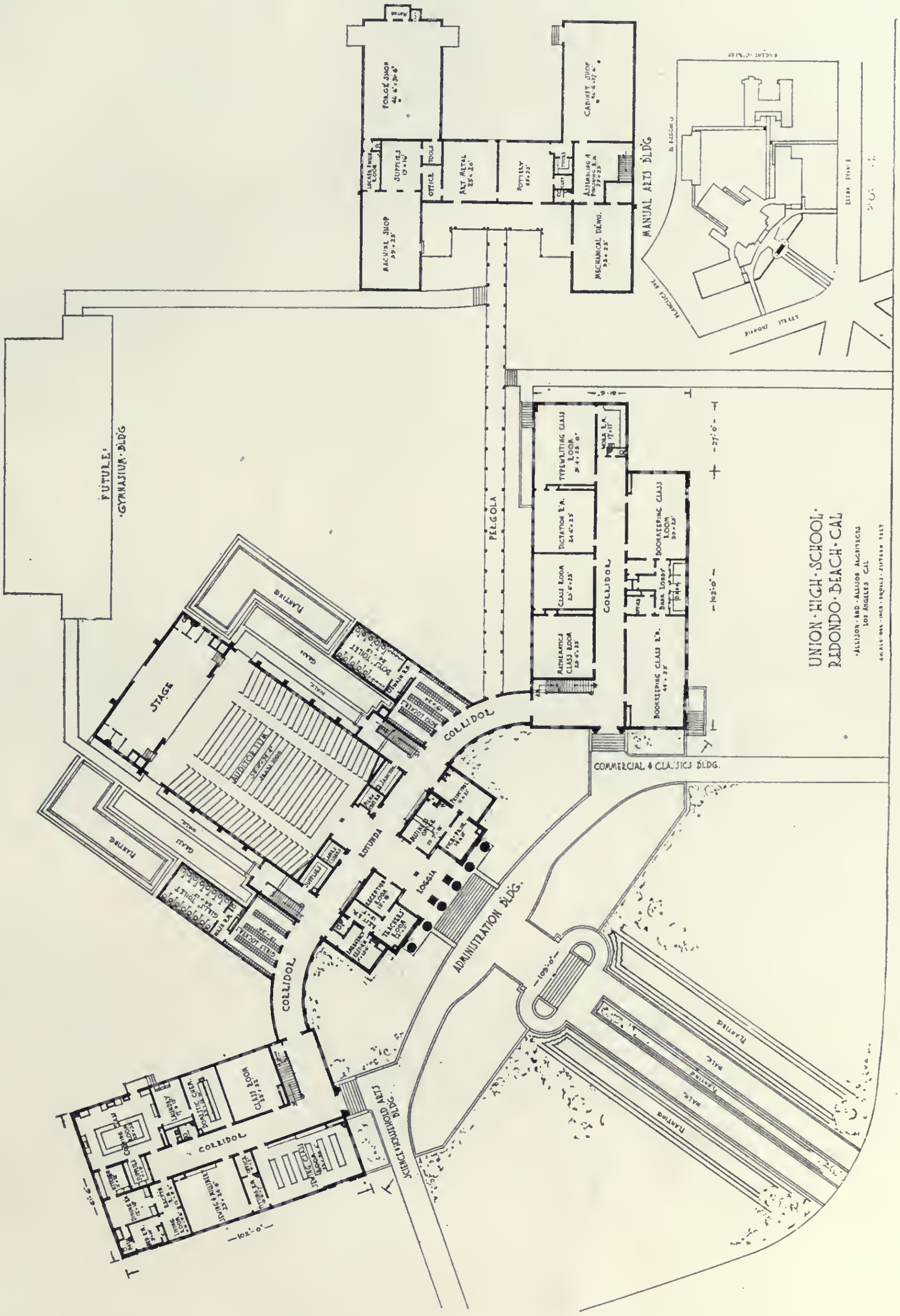


EXHIBIT HALL
WATER COLOR CLASS ROOM 17'-4" × 20'
ROMAN LR
MUSIC ROOM
LOOF
Skylight
FREEHAND CLASS RM 33 × 18'
STAGE
·THIRD·FLOOR·PLAN·
BALCONY
COLLIDOR
STUDY HALL 36' × 36'
STAGE
LIBRARY
LOOF
ADMINISTRATION BUILDING
OPEN AIR COLLIDOR
BIOLOGY & BOTANY LABORATORY
SUPPLIES
MUSEUM
LECTURE RM
OFFICE
CHEMISTRY LABY
COLLIDOR
APPARATUS RM
PHYSICS LABY
SCIENCE AND HOUSEHOLD ARTS BLDG
LOOF OF PERGOLA TO MANUAL ARTS BLDG.
CLASS ROOM 24'-6" × 23'
CLASS ROOM 23'-6" × 23'
CLASS ROOM 24'-6" × 23'
CLASS ROOM 31'-6" × 23'
OFFICE 17 × 11'
COLLIDOR
CLASS ROOM 26'-6" × 28'
CLASS ROOM 26' × 23'
CLASS ROOM 21'-3" × 23'
CLASS ROOM 24'-3" × 23'
COMMERCIAL AND CLASSICS BUILDING

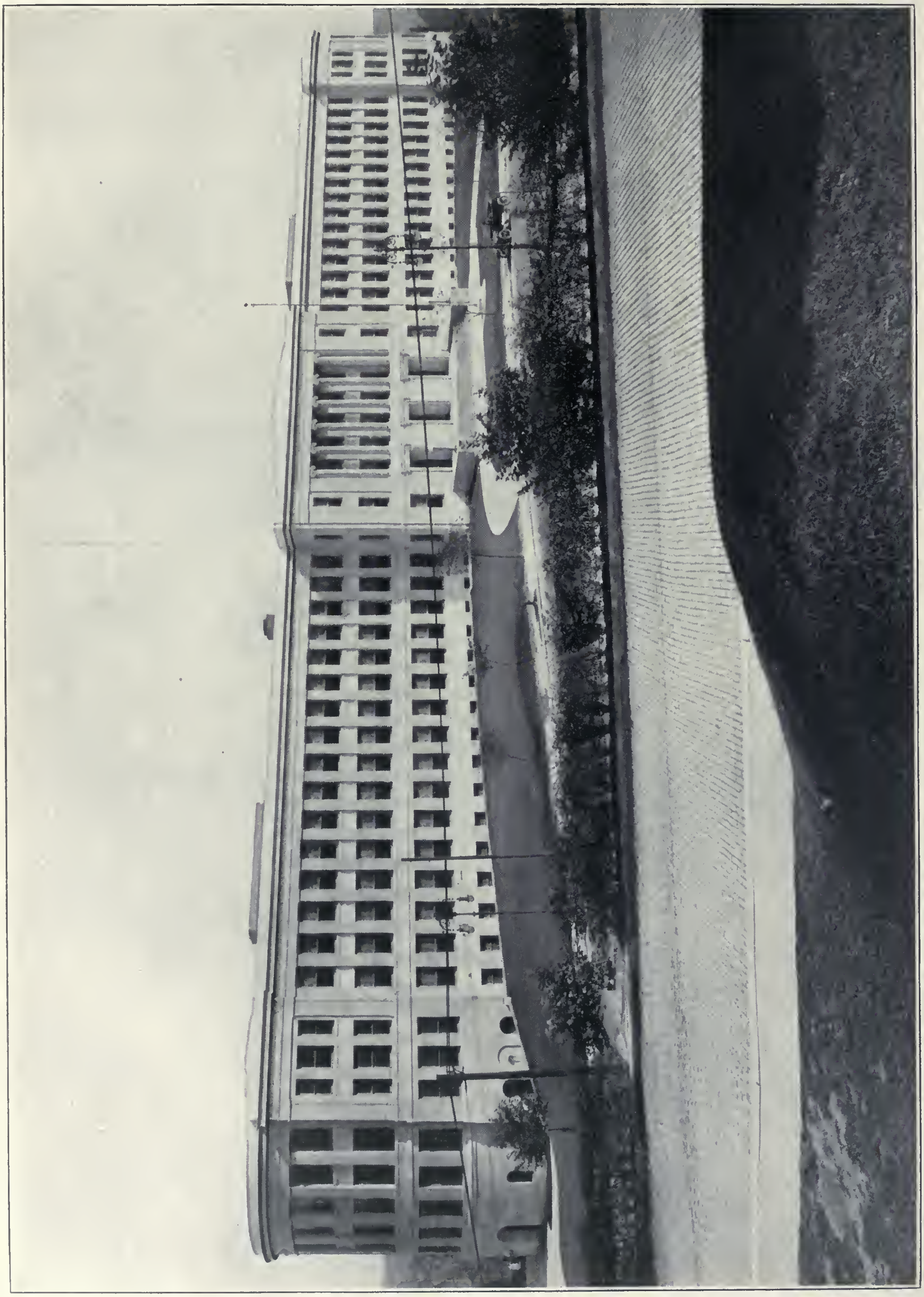
UNION HIGH SCHOOL, REDONDO BEACH, CAL.

Allison & Allison, Architects, Los Angeles, Cal.

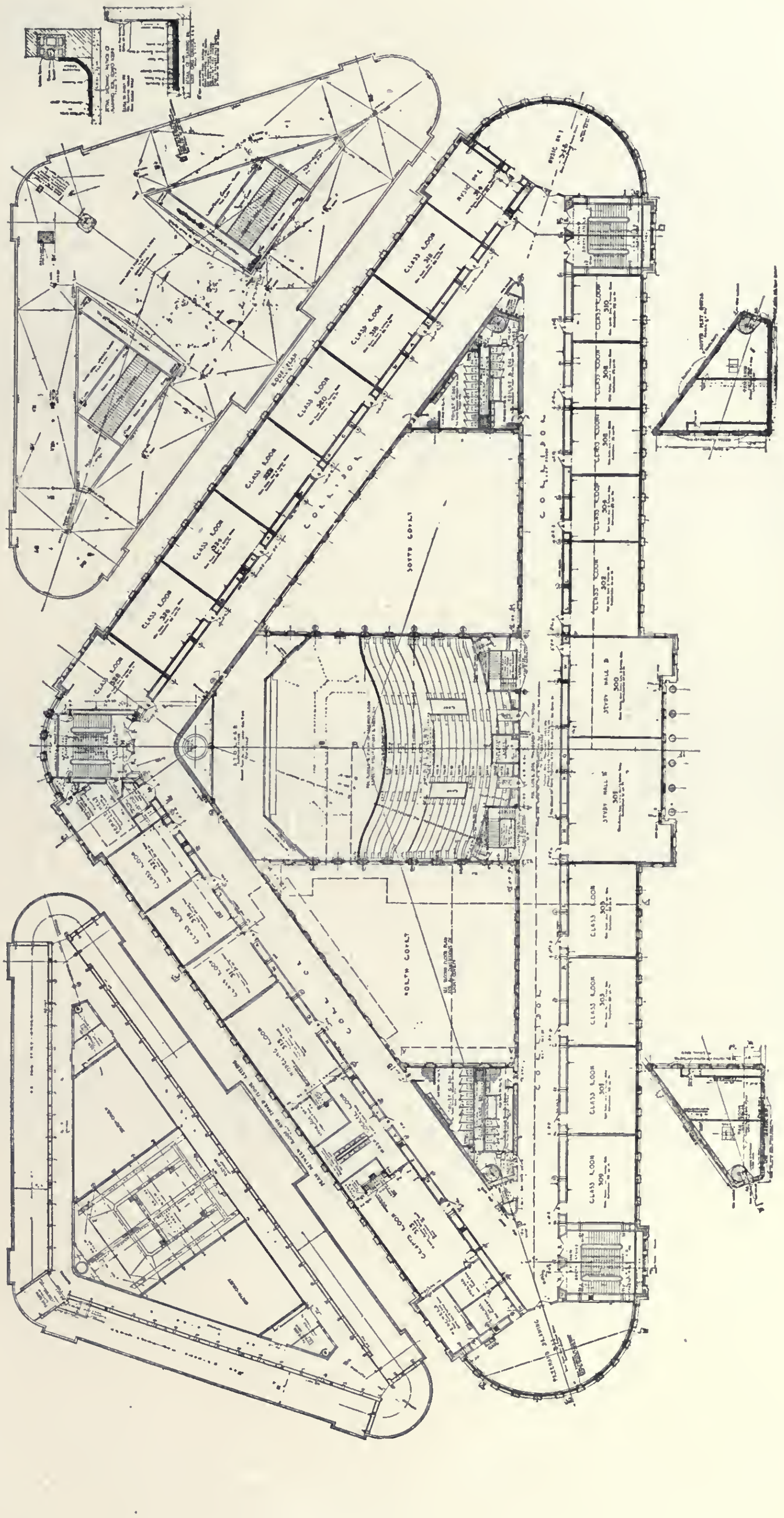
LEFT: SECOND FLOOR PLAN.


FUTURE GYMNASIUM BLDG
MANUAL ARTS BLDG
FORGE SHOP
CABINET SHOP
MACHINE SHOP
SUPPLIES
OFFICE
TOOLS
ART METAL
POTTERY
MECHANICAL DRWG.
PERGOLA
TYPEWRITING CLASS ROOM
DICTATION R.M.
CLASS ROOM
MATHEMATICS CLASS ROOM
COLLIDOR
BOOKKEEPING CLASS ROOM
BOOKKEEPING CLASS R.M.
COMMERCIAL & CLASSICS BLDG.
UNION·HIGH·SCHOOL·
REDONDO·BEACH·CAL
STAGE
AUDITORIUM
PLANTING
GRASS
WALK
COLLIDOR
ROTUNDA
LOGGIA
ADMINISTRATION BLDG.
COLLIDOR
CLASS ROOM
LAUNDRY
COLLIDOR
SEWING & MILLINERY
SCIENCE & HOUSEHOLD ARTS BLDG.
PLANTING
WALK
PLANTING
102'-0"
109'-0"

MAIN FLOOR AND PLAT PLAN, UNION HIGH SCHOOL, REDONDO BEACH, CAL.
Allison & Allison, Architects, Los Angeles, Cal.

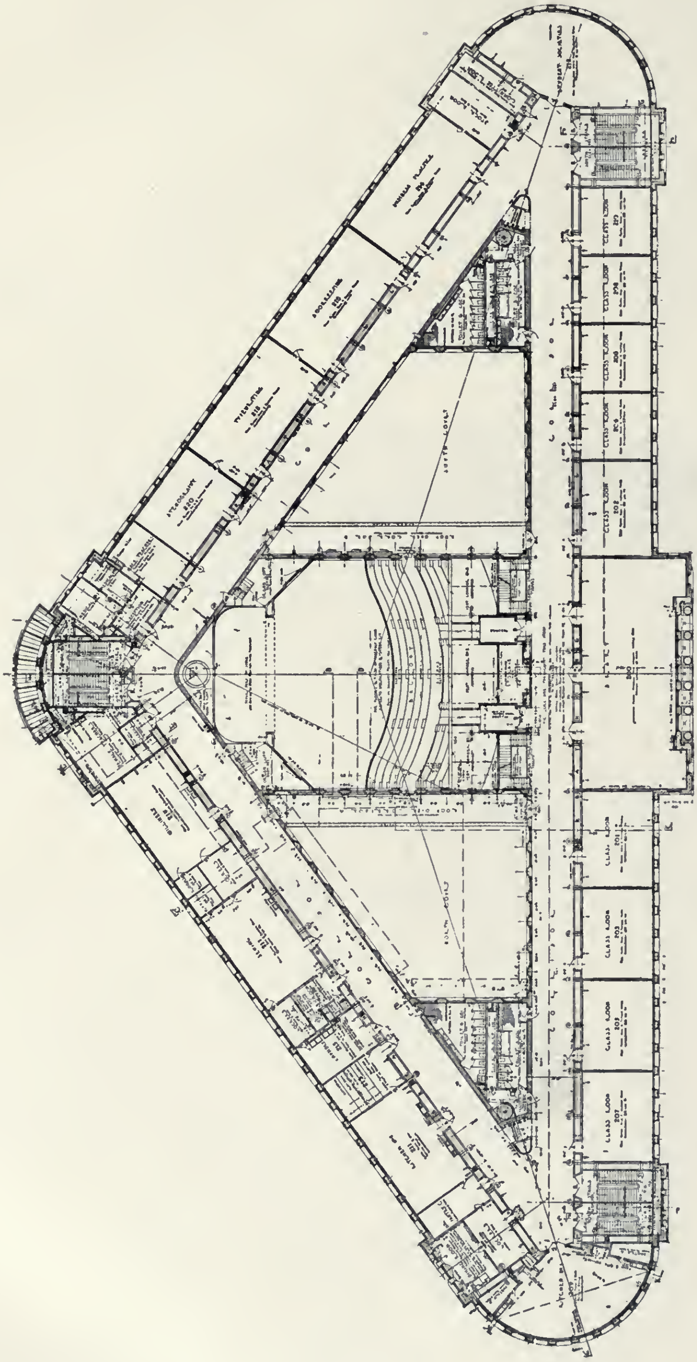


SCHENLEY HIGH SCHOOL, PITTSBURGH, PA.
Edward Stotz, Architect, Pittsburgh.


CLASS ROOM 310
CLASS ROOM 308
CLASS ROOM 306
CLASS ROOM 304
CLASS ROOM 302
STUDY HALL B 300
CORRIDOR
SOUTH COURT
NORTH COURT

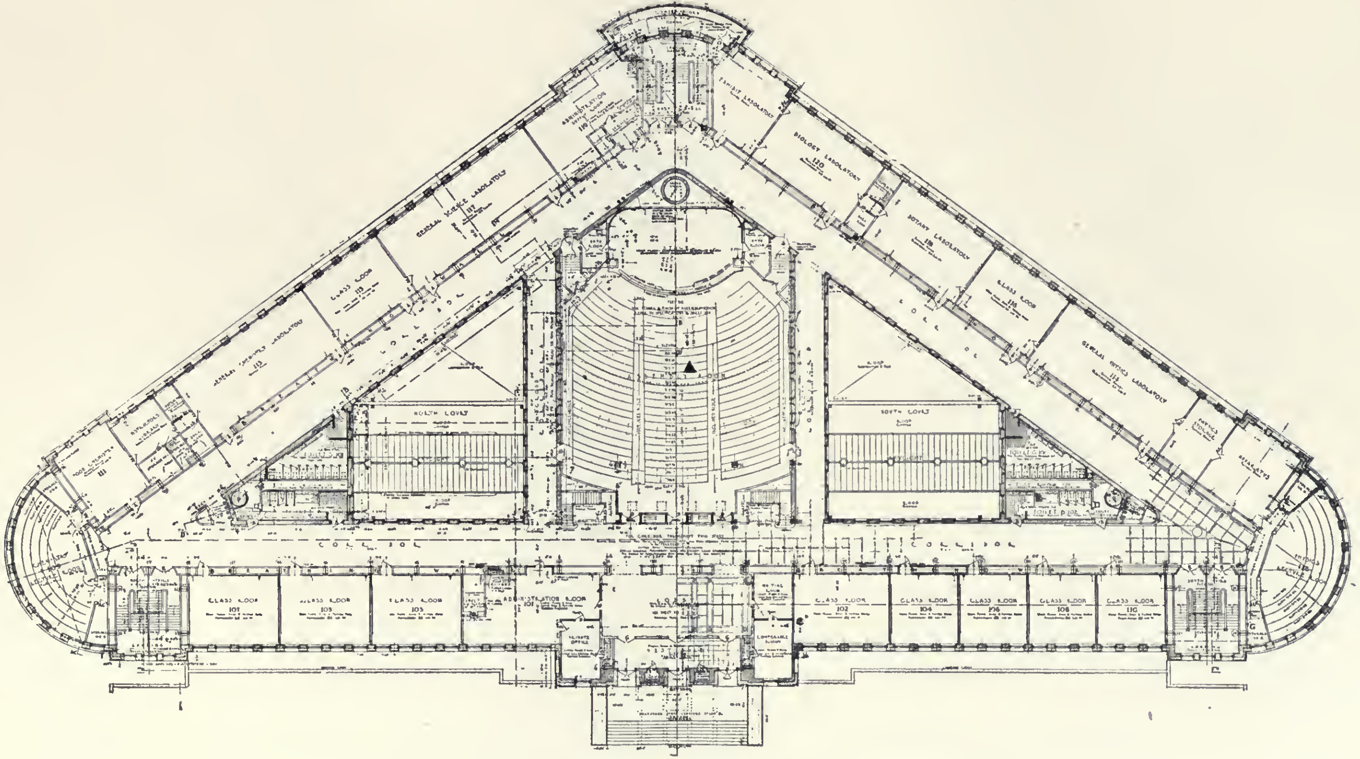
THIRD FLOOR PLAN, SCHENLEY HIGH SCHOOL, PITTSBURGH, PA.

Edward Stotz, Architect, Pittsburgh.



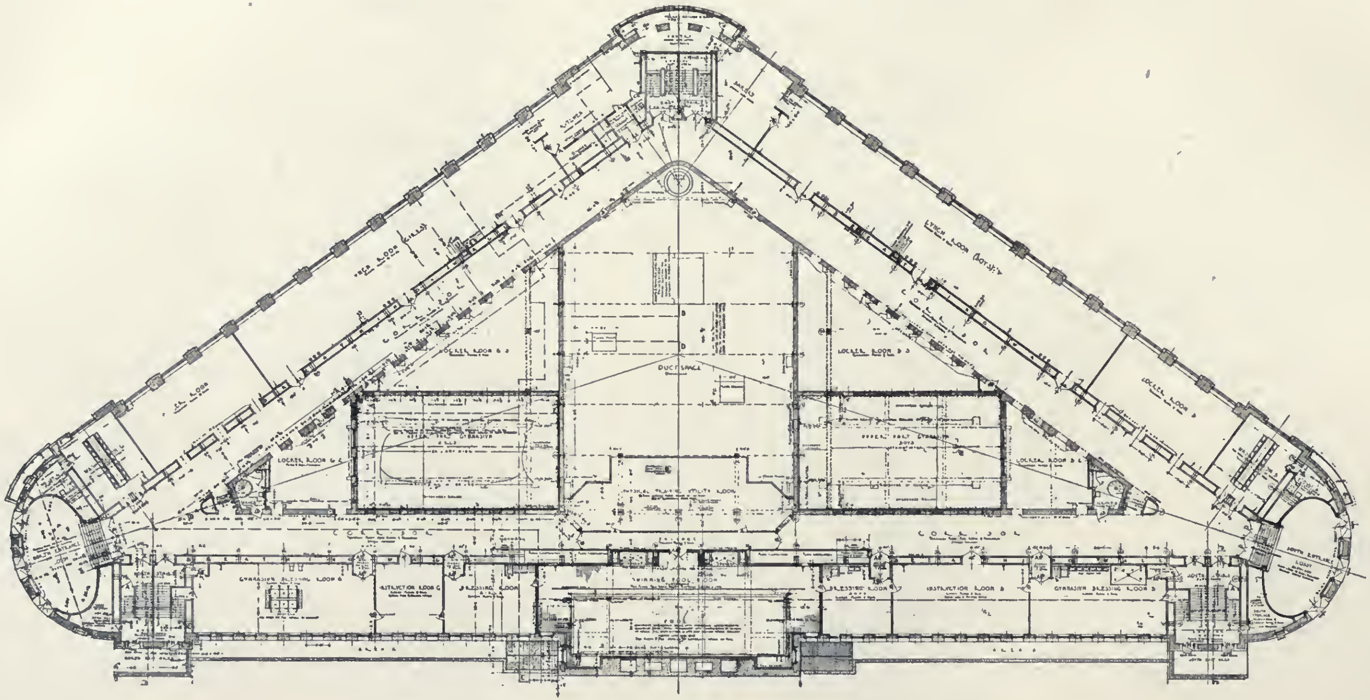
SECOND FLOOR PLAN, SCHENLEY HIGH SCHOOL, PITTSBURGH, PA.

Edward Stotz, Architect, Pittsburgh.


CORRIDOR
CLASS ROOM 101
CLASS ROOM 103
CLASS ROOM 105
ADMINISTRATION ROOM
CLASS ROOM 102
CLASS ROOM 104
CLASS ROOM 106
CLASS ROOM 108
CLASS ROOM 110
NORTH COURT
SOUTH COURT
BIOLOGY LABORATORY 120
BOTANY LABORATORY 118
GENERAL PHYSICS LABORATORY
PHYSICS LECTURE

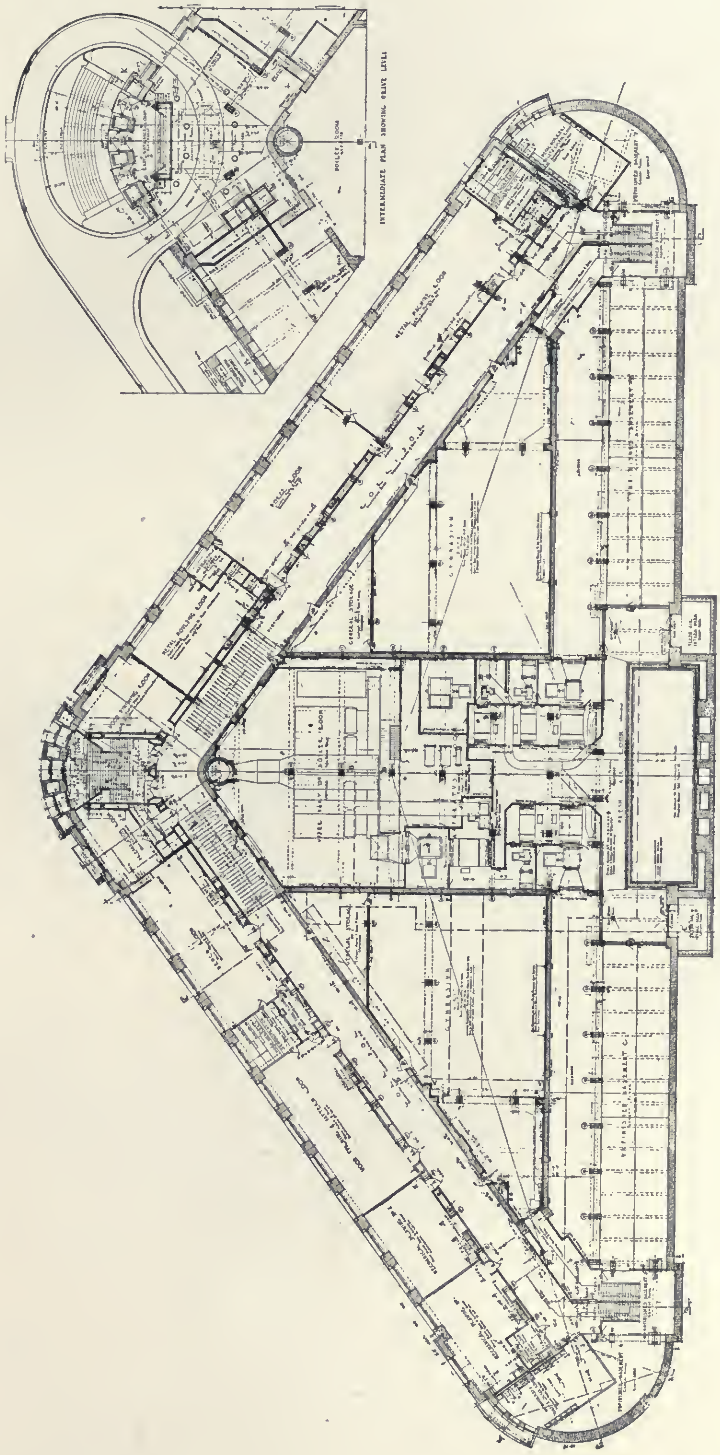
FIRST FLOOR PLAN, SCHENLEY HIGH SCHOOL, PITTSBURGH, PA.

Edward Stotz, Architect, Pittsburgh.


LUNCH ROOM (BOYS)
LOCKER ROOM B
LOCKER ROOM B 3
LOCKER ROOM B 2
CORRIDOR
DUCT SPACE
UPPER PART GYMNASIUM BOYS
UPPER PART GYMNASIUM
PHYSICAL TRAINING UTILITY ROOM
SWIMMING POOL ROOM
DRESSING ROOM
INSTRUCTION ROOM B
GYMNASIUM DRESSING ROOM B
SOUTH ENTRANCE
LOBBY
LOCKER ROOM G 2
LOCKER ROOM G 3
INSTRUCTION ROOM G
GYMNASIUM DRESSING ROOM G
NORTH ENTRANCE
AREA

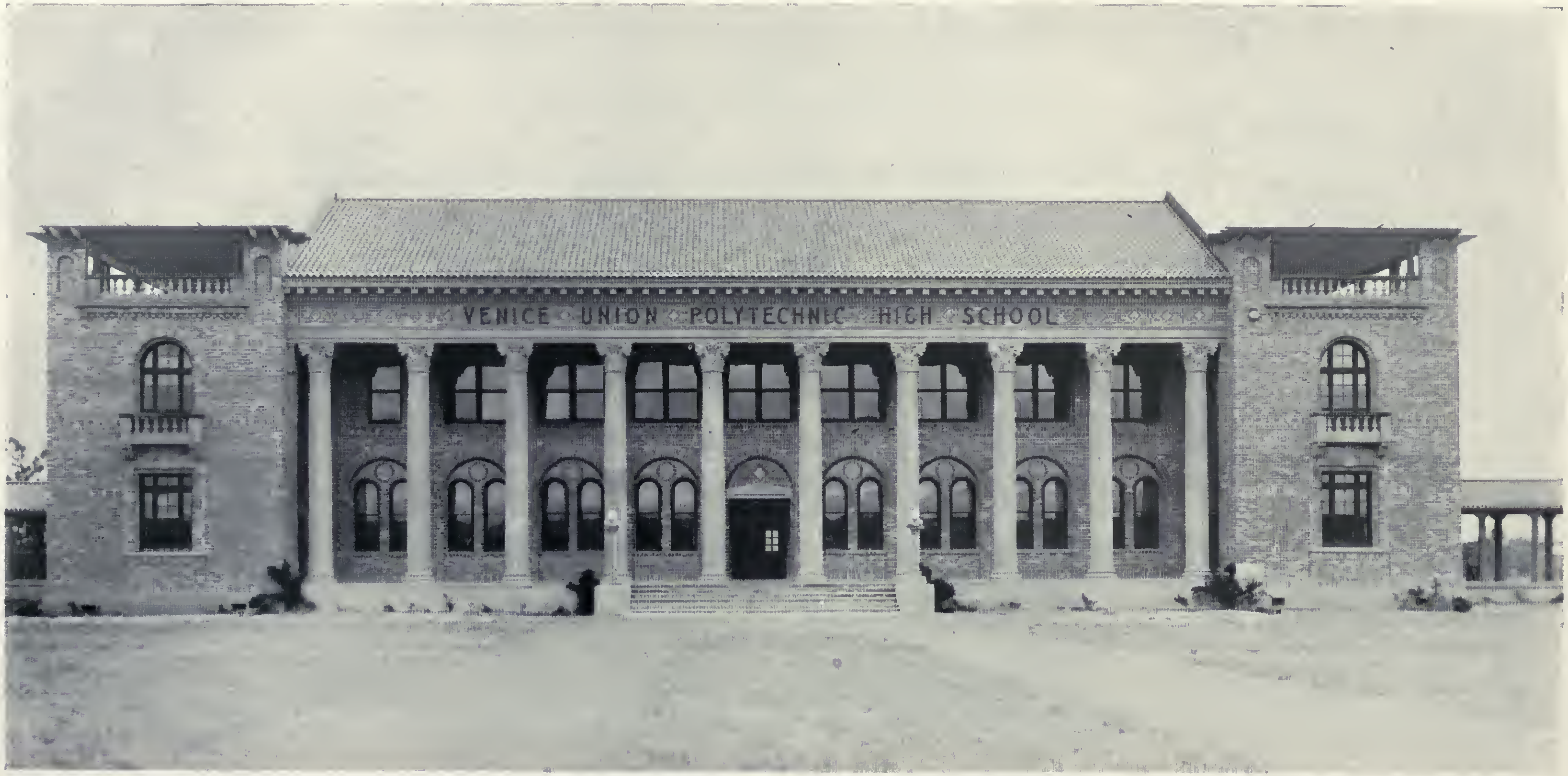
GROUND FLOOR PLAN, SCHENLEY HIGH SCHOOL, PITTSBURGH, PA.

Edward Stotz, Architect, Pittsburgh.

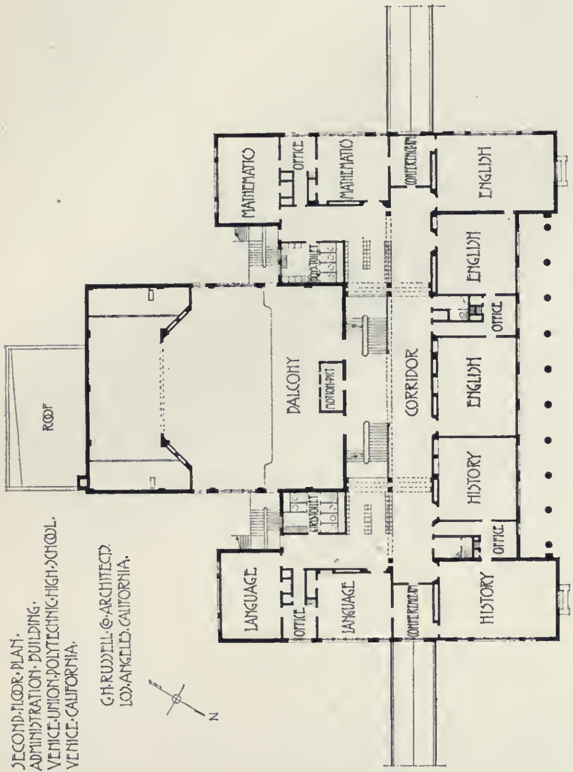

INTERMEDIATE PLAN SHOWING DRIVE LEVEL
BOILER ROOM

BASEMENT PLAN, SCHENLEY HIGH SCHOOL, PITTSBURGH, PA.

Edward Stotz, Architect, Pittsburgh.

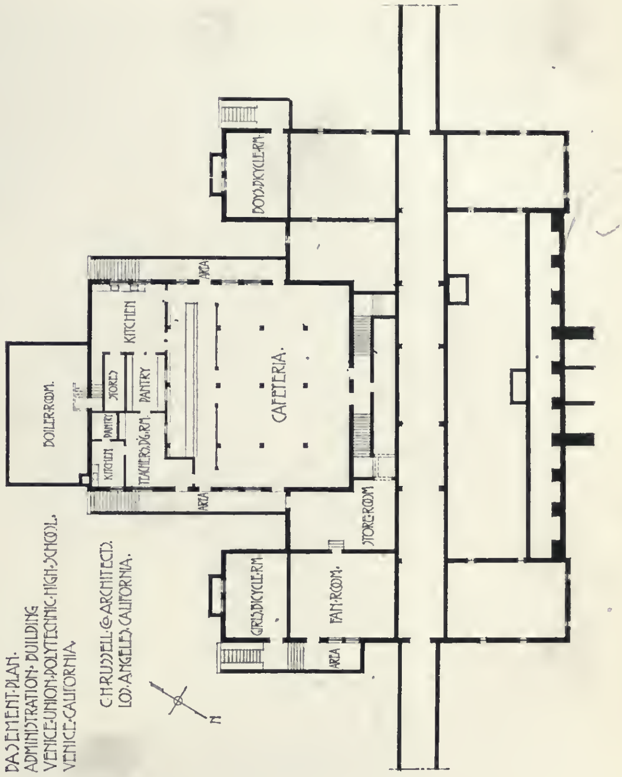

VENICE UNION POLYTECHNIC HIGH SCHOOL

ADMINISTRATION BUILDING, UNION POLYTECHNIC HIGH SCHOOL, VENICE, CAL.
C. H. Russell Co., Architects, Los Angeles, Cal.


ROOF
BALCONY
MOTION·PICT
CORRIDOR
MATHEMATICS
OFFICE
MATHEMATICS
CONFERENCE·RM
ENGLISH
BOYS·TOILET
ENGLISH
OFFICE
ENGLISH
HISTORY
GIRLS·TOILET
OFFICE
HISTORY
CONFERENCE·RM
LANGUAGE
OFFICE
LANGUAGE
N

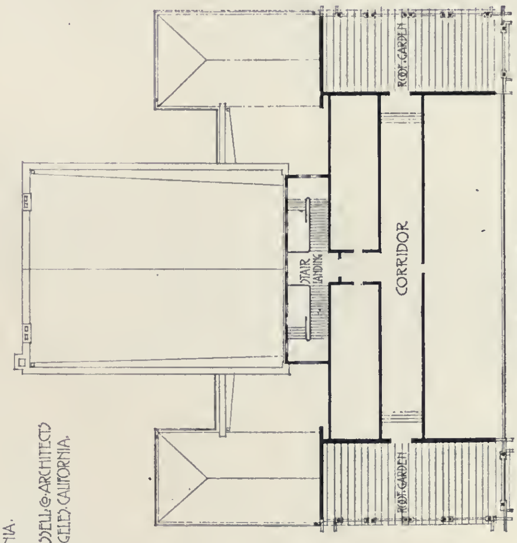
SECOND·FLOOR·PLAN·
ADMINISTRATION·BUILDING
VENICE·UNION·POLYTECHNIC·HIGH·SCHOOL.
VENICE·CALIFORNIA.

C·H·RUSSELL·&·ARCHITECTS
LOS·ANGELES·CALIFORNIA.


BOYS·BICYCLE·RM.
AREA
KITCHEN
STORES
PANTRY
CAFETERIA.
BOILER·ROOM.
PANTRY
KITCHEN
TEACHERS·DG·RM.
AREA
STORE·ROOM
GIRLS·BICYCLE·RM.
FAN·ROOM.
AREA
N

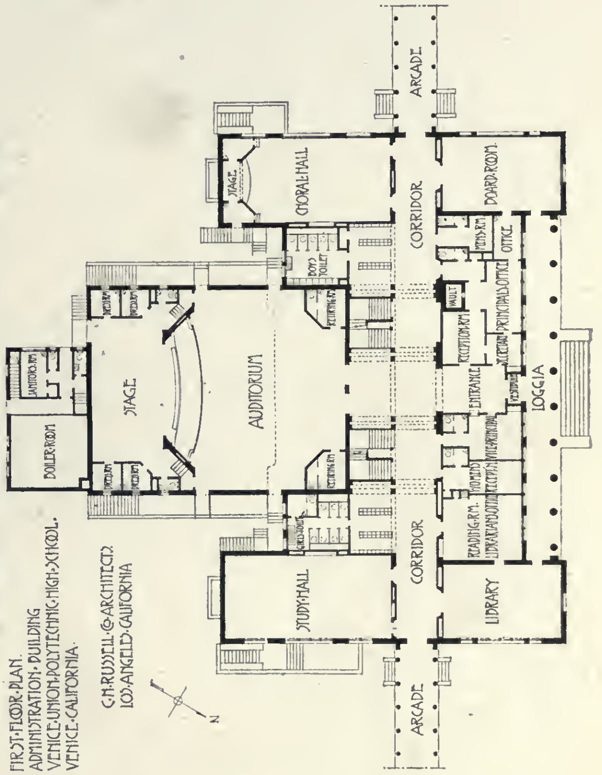
BASEMENT·PLAN·
ADMINISTRATION·BUILDING
VENICE·UNION·POLYTECHNIC·HIGH·SCHOOL.
VENICE·CALIFORNIA.

C·H·RUSSELL·&·ARCHITECTS
LOS·ANGELES·CALIFORNIA.


ROOF·GARDEN
STAIR LANDING
CORRIDOR
ROOF·GARDEN
N

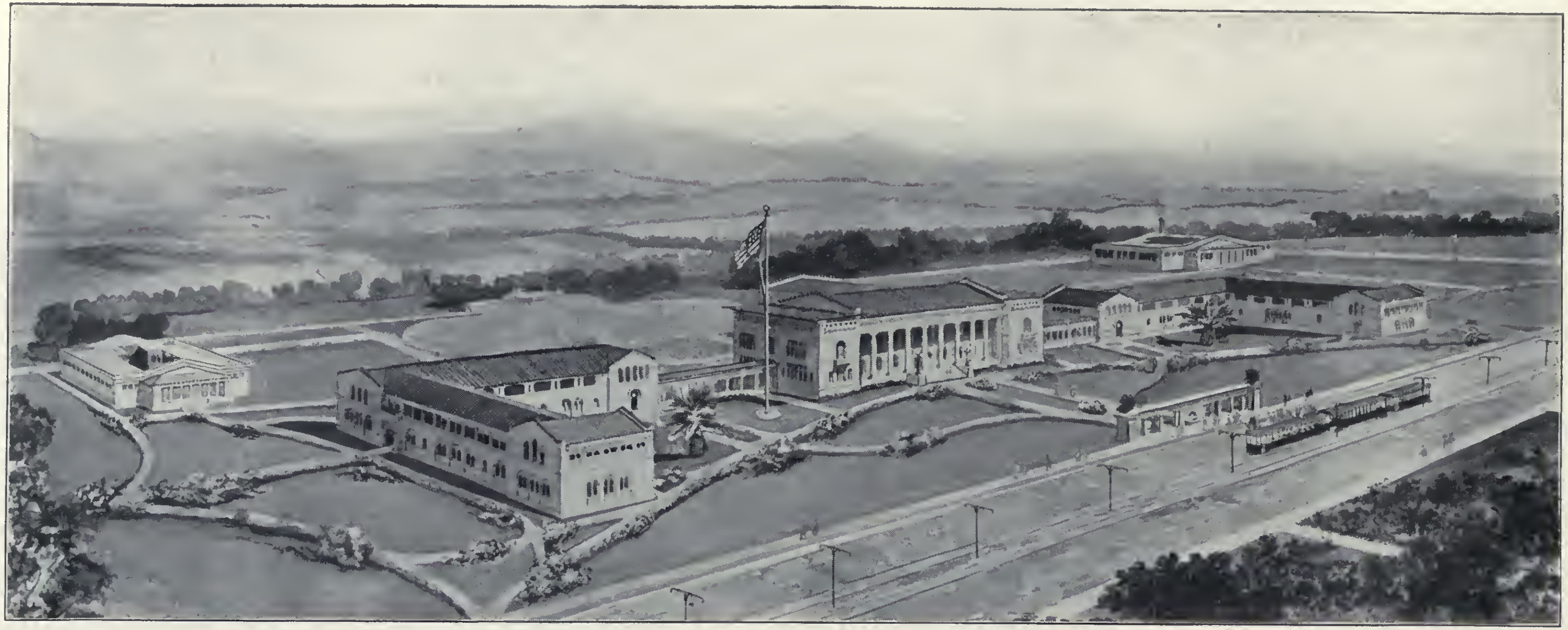
ROOF·PLAN·
ADMINISTRATION·BUILDING
VENICE·UNION·POLYTECHNIC·HIGH·SCHOOL.
VENICE·CALIFORNIA.

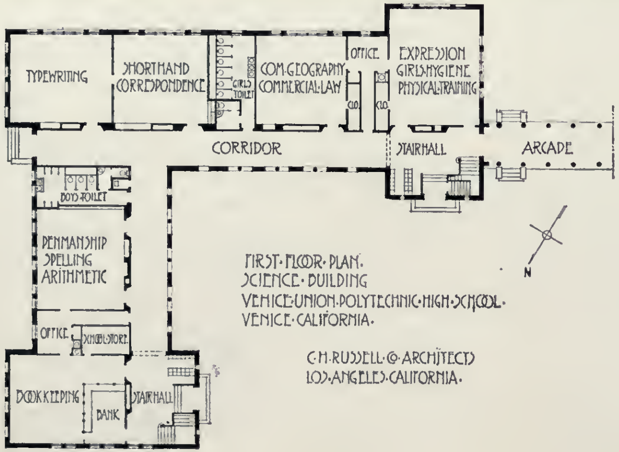
C·H·RUSSELL·&·ARCHITECTS
LOS·ANGELES·CALIFORNIA.


ARCADE
STAGE
CHORAL·HALL
CORRIDOR
BOARD·ROOM
BOYS TOILET
MEN'S·RM
OFFICE
VAULT
RETIRING·RM
STAGE
AUDITORIUM
JANITOR'S·RM
BOILER·ROOM
RECEPTION·RM
PRINCIPAL'S·OFFICE
SECRETARY
ENTRANCE
VESTIBULE
LOGGIA
RETIRING·RM
WOMEN'S
READING·RM.
LIBRARIAN'S·OFFICE
STUDY·HALL
CORRIDOR
LIBRARY
ARCADE
N

FIRST·FLOOR·PLAN·
ADMINISTRATION·BUILDING
VENICE·UNION·POLYTECHNIC·HIGH·SCHOOL.
VENICE·CALIFORNIA.

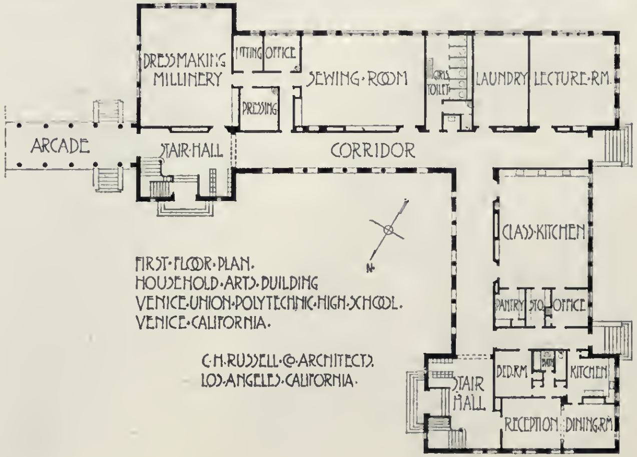
C·H·RUSSELL·&·ARCHITECTS
LOS·ANGELES·CALIFORNIA

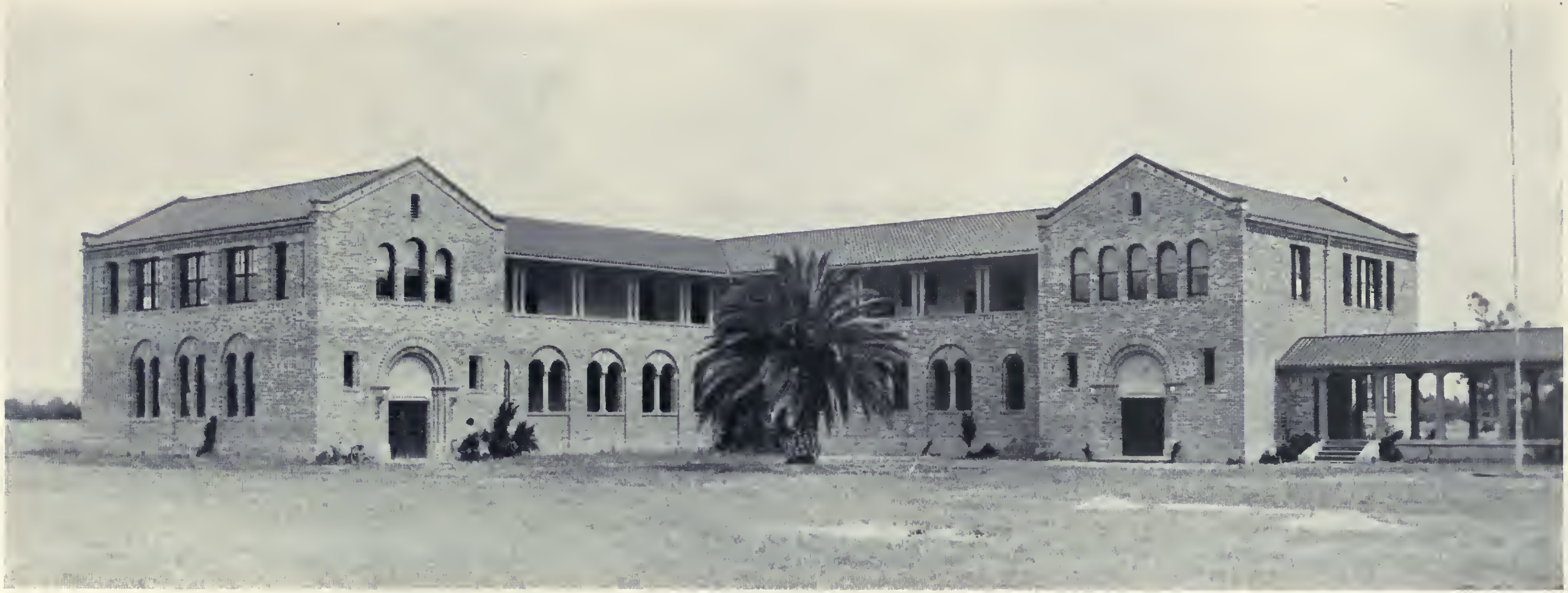


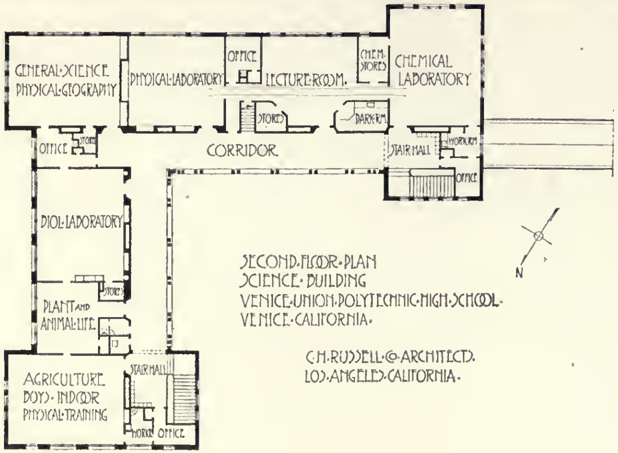

TYPEWRITING
SHORTHAND CORRESPONDENCE
GIRLS TOILET
COM.GEOGRAPHY COMMERCIAL·LAW
OFFICE
CLO.
CLO.
EXPRESSION GIRLS.HYGIENE PHYSICAL·TRAINING
CORRIDOR
STAIRHALL
ARCADE
BOYS·TOILET
PENMANSHIP SPELLING ARITHMETIC
OFFICE
SCHOOL·STORE
BOOKKEEPING
BANK
STAIRHALL
N
FIRST·FLOOR·PLAN.
SCIENCE·BUILDING
VENICE·UNION·POLYTECHNIC·HIGH·SCHOOL.
VENICE·CALIFORNIA.
C.H.RUSSELL·CO·ARCHITECTS
LOS·ANGELES·CALIFORNIA.

BIRDSEYE VIEW
UNION POLYTECHNIC HIGH
SCHOOL, VENICE, CAL.

C. H. Russell Co., Architects,
Los Angeles, Cal.


DRESSMAKING MILLINERY
FITTING OFFICE
PRESSING
SEWING·ROOM
GIRLS TOILET
LAUNDRY
LECTURE·RM.
ARCADE
STAIR·HALL
CORRIDOR
CLASS·KITCHEN
PANTRY
STO.
OFFICE
BED.RM
BATH
KITCHEN
STAIR HALL
RECEPTION
DINING.RM
N
FIRST·FLOOR·PLAN.
HOUSEHOLD·ARTS·BUILDING
VENICE·UNION·POLYTECHNIC·HIGH·SCHOOL.
VENICE·CALIFORNIA.
C.H.RUSSELL·CO·ARCHITECTS
LOS·ANGELES·CALIFORNIA.

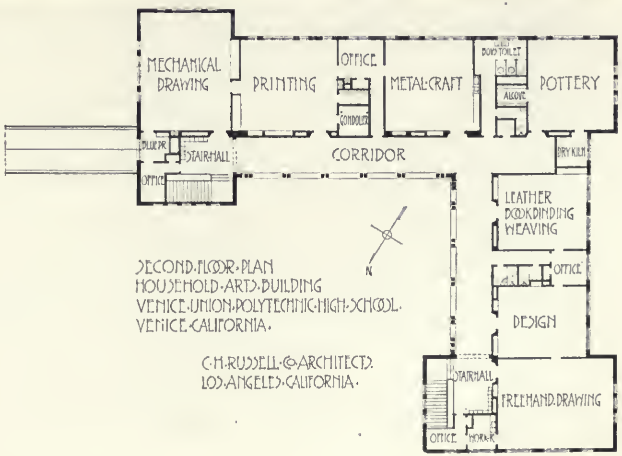


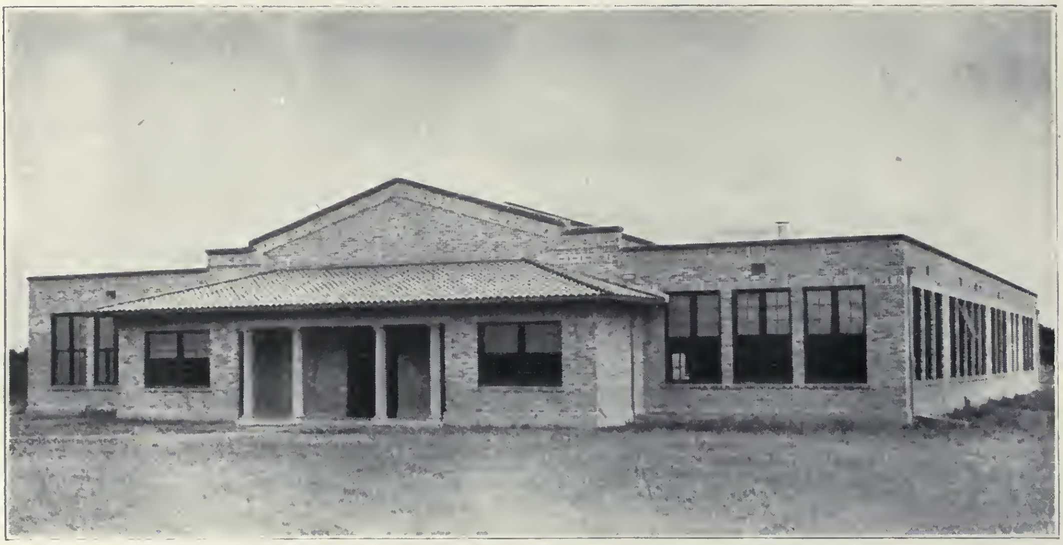

GENERAL·SCIENCE PHYSICAL·GEOGRAPHY
PHYSICAL·LABORATORY
OFFICE
LECTURE·ROOM.
CHEM. STORES
CHEMICAL LABORATORY
STORES
DARK·RM.
OFFICE
STORE
CORRIDOR
STAIR·HALL
WORK·RM.
OFFICE
BIOL·LABORATORY
STORES
PLANT AND ANIMAL·LIFE
STAIR·HALL
AGRICULTURE BOYS·INDOOR PHYSICAL·TRAINING
WORK
OFFICE
N
SECOND·FLOOR·PLAN
SCIENCE·BUILDING
VENICE·UNION·POLYTECHNIC·HIGH·SCHOOL·
VENICE·CALIFORNIA·
C·H·RUSSELL·CO·ARCHITECTS·
LOS·ANGELES·CALIFORNIA·

SCIENCE BUILDING
UNION POLYTECHNIC HIGH
SCHOOL, VENICE, CAL.

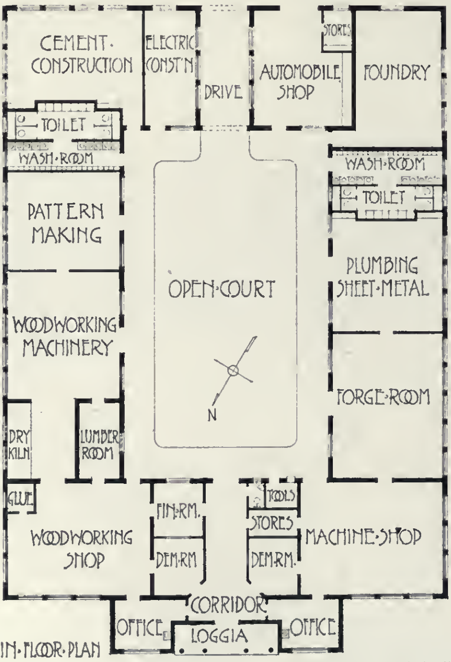
(Exterior Household Arts Building is reversed duplicate of above building.)

C. H. Russell Co., Architects,
Los Angeles, Cal.


MECHANICAL DRAWING
PRINTING
OFFICE
METAL·CRAFT
BOYS TOILET
ALCOVE
POTTERY
CONDUITS
BLUE PR.
STAIR·HALL
CORRIDOR
DRY KILN
OFFICE
LEATHER BOOKBINDING WEAVING
OFFICE
DESIGN
STAIR·HALL
FREEHAND·DRAWING
OFFICE
WORK·R.
N
SECOND·FLOOR·PLAN
HOUSEHOLD·ARTS·BUILDING
VENICE·UNION·POLYTECHNIC·HIGH·SCHOOL·
VENICE·CALIFORNIA·
C·H·RUSSELL·CO·ARCHITECTS·
LOS·ANGELES·CALIFORNIA·

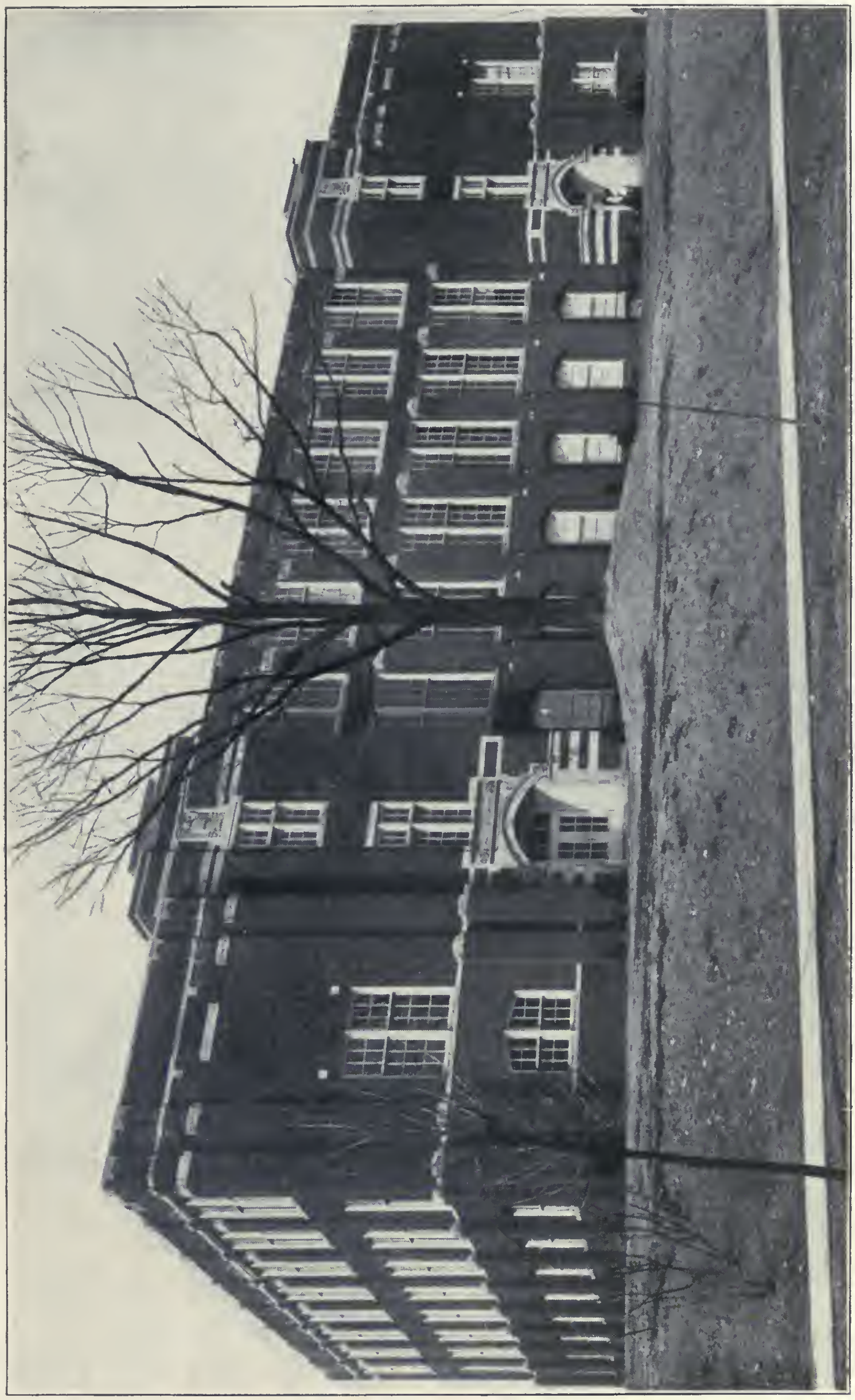


MECHANICAL ARTS BUILDING, UNION POLYTECHNIC HIGH SCHOOL, VENICE, CAL.


CEMENT· CONSTRUCTION
ELECTRIC CONST'N
DRIVE
STORES
AUTOMOBILE SHOP
FOUNDRY
TOILET
WASH·ROOM
WASH·ROOM
TOILET
PATTERN MAKING
OPEN·COURT
PLUMBING SHEET·METAL
WOODWORKING MACHINERY
N
FORGE·ROOM
DRY KILN
LUMBER ROOM
GLUE
FIN·RM.
TOOLS
STORES
WOODWORKING SHOP
DEM·RM
DEM·RM.
MACHINE·SHOP
CORRIDOR
OFFICE
LOGGIA
OFFICE

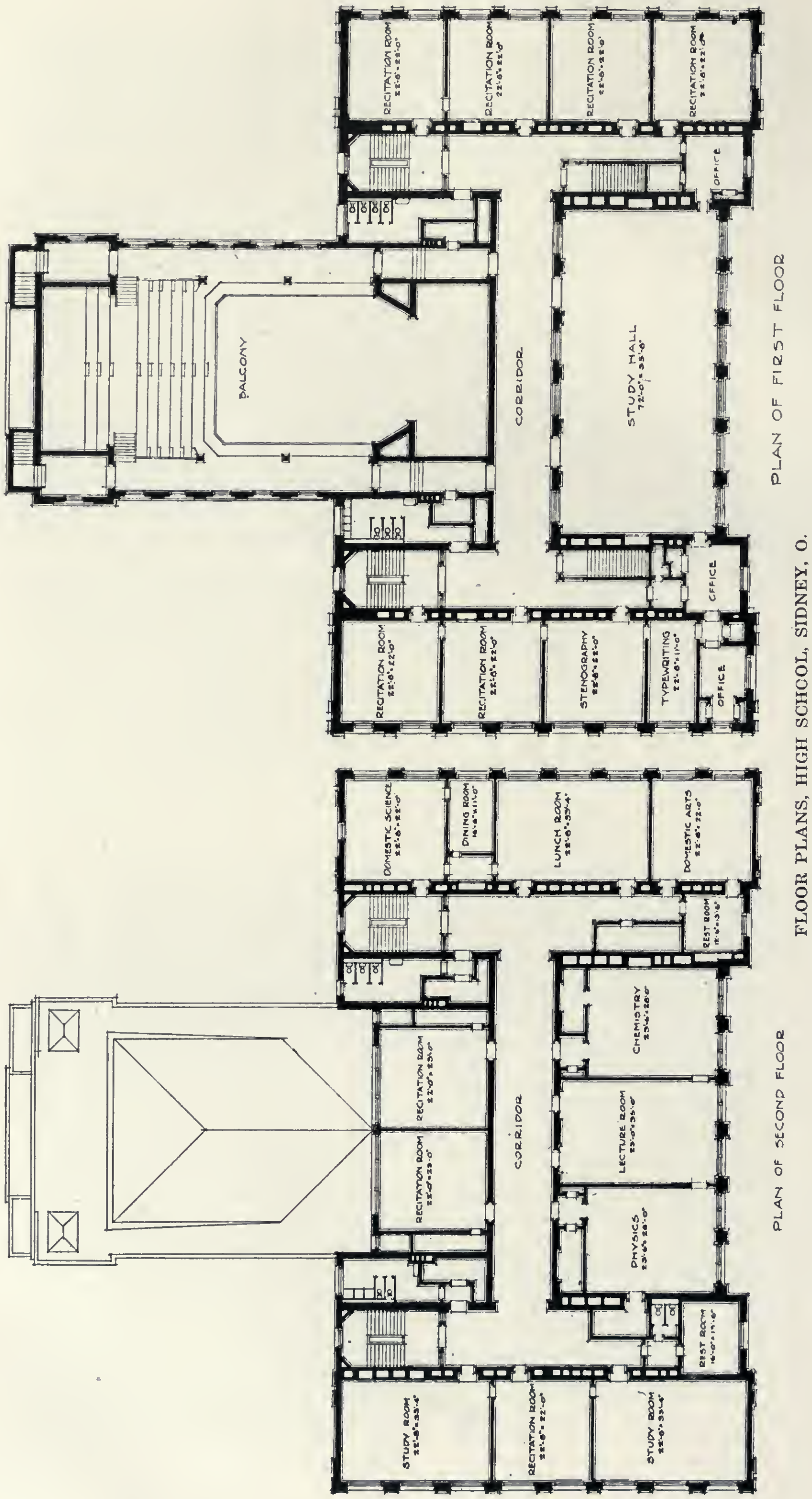
MAIN·FLOOR·PLAN
MECHANICAL· ARTS·BUILDING
VENICE·UNION·POLYTECHNIC·HIGH·SCHOOL·
VENICE·CALIFORNIA·

C·H·RUSSELL·CO·ARCHITECTS·
LOS·ANGELES·CALIFORNIA·



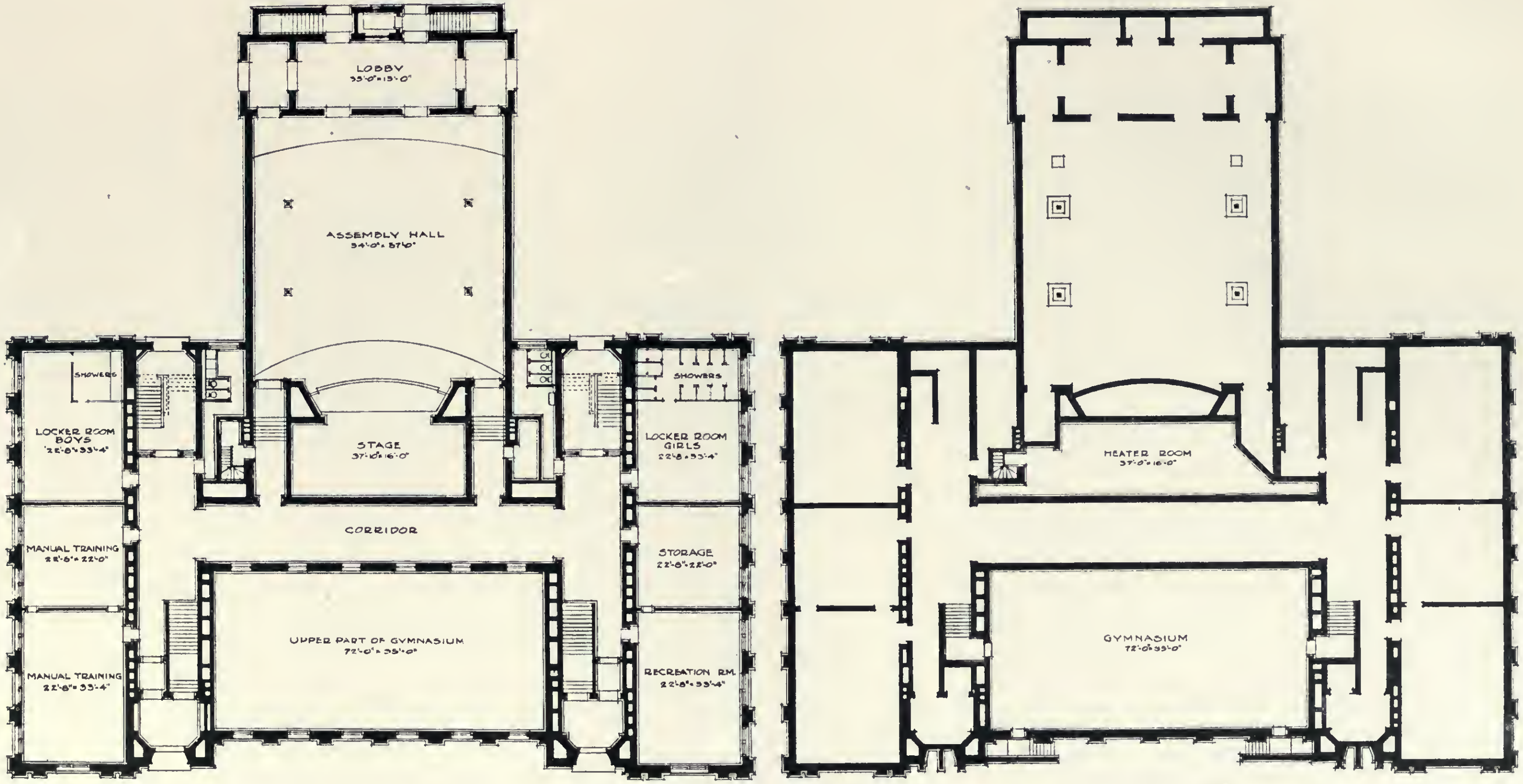
HIGH SCHOOL, SIDNEY, O.

Frank L. Packard, Architect, Columbus, O.


RECITATION ROOM
RECITATION ROOM
RECITATION ROOM
RECITATION ROOM
OFFICE
BALCONY
CORRIDOR
STUDY HALL
72'-0" x 33'-0"
OFFICE
RECITATION ROOM
RECITATION ROOM
STENOGRAPHY
TYPEWRITING
OFFICE
PLAN OF FIRST FLOOR
DOMESTIC SCIENCE
DINING ROOM
LUNCH ROOM
DOMESTIC ARTS
REST ROOM
CHEMISTRY
LECTURE ROOM
PHYSICS
RECITATION ROOM
RECITATION ROOM
CORRIDOR
REST ROOM
STUDY ROOM
RECITATION ROOM
STUDY ROOM
PLAN OF SECOND FLOOR

FLOOR PLANS, HIGH SCHCOL, SIDNEY, O.

Frank L. Packard, Architect, Columbus, O.

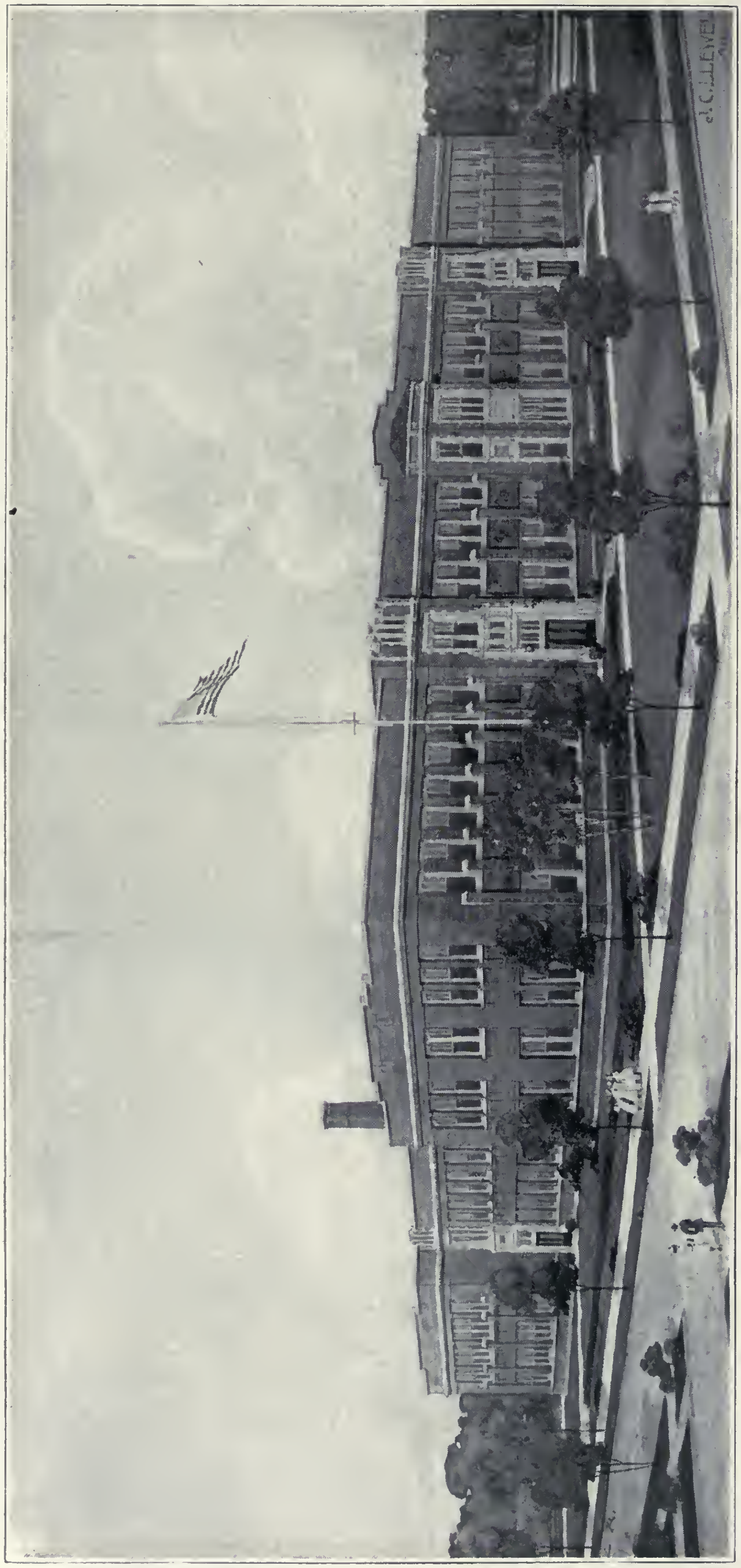

LOBBY
33'-0"×13'-0"
ASSEMBLY HALL
54'-0"×87'-0"
STAGE
37'-0"×16'-0"
SHOWERS
LOCKER ROOM BOYS
22'-8"×33'-4"
MANUAL TRAINING
22'-8"×22'-0"
MANUAL TRAINING
22'-8"×33'-4"
CORRIDOR
UPPER PART OF GYMNASIUM
72'-0"×33'-0"
SHOWERS
LOCKER ROOM GIRLS
22'-8"×33'-4"
STORAGE
22'-8"×22'-0"
RECREATION RM.
22'-8"×33'-4"
HEATER ROOM
37'-0"×16'-0"
GYMNASIUM
72'-0"×33'-0"

PLAN OF GROUND FLOOR

PLAN OF BASEMENT

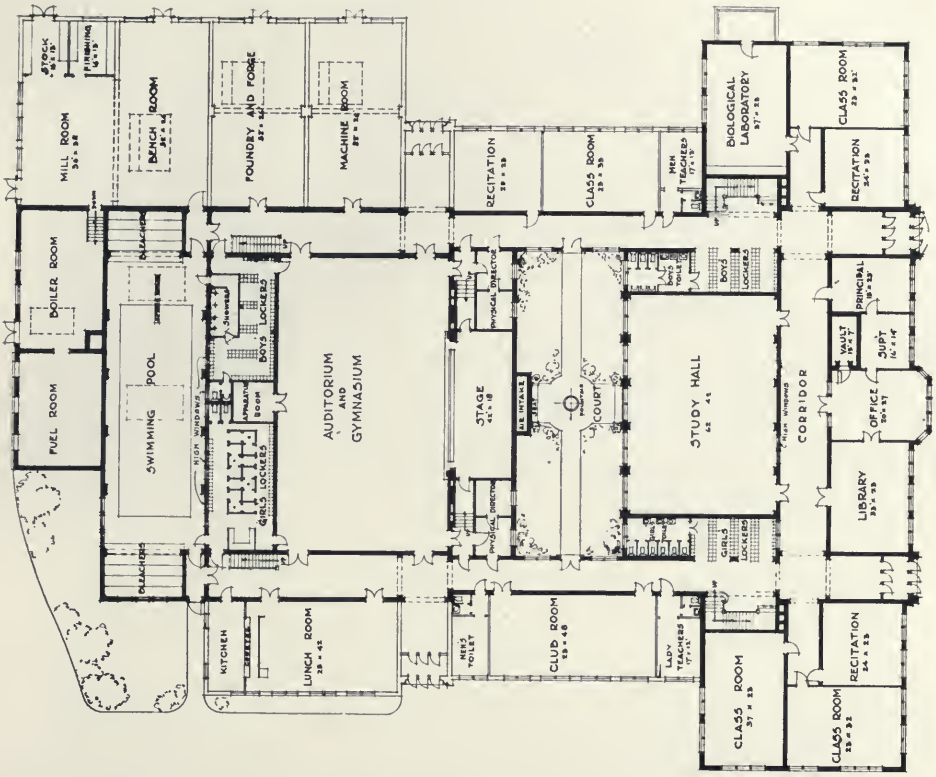
FLOOR PLANS, HIGH SCHOOL, SIDNEY, O.

Frank L. Packard, Architect, Columbus, O.

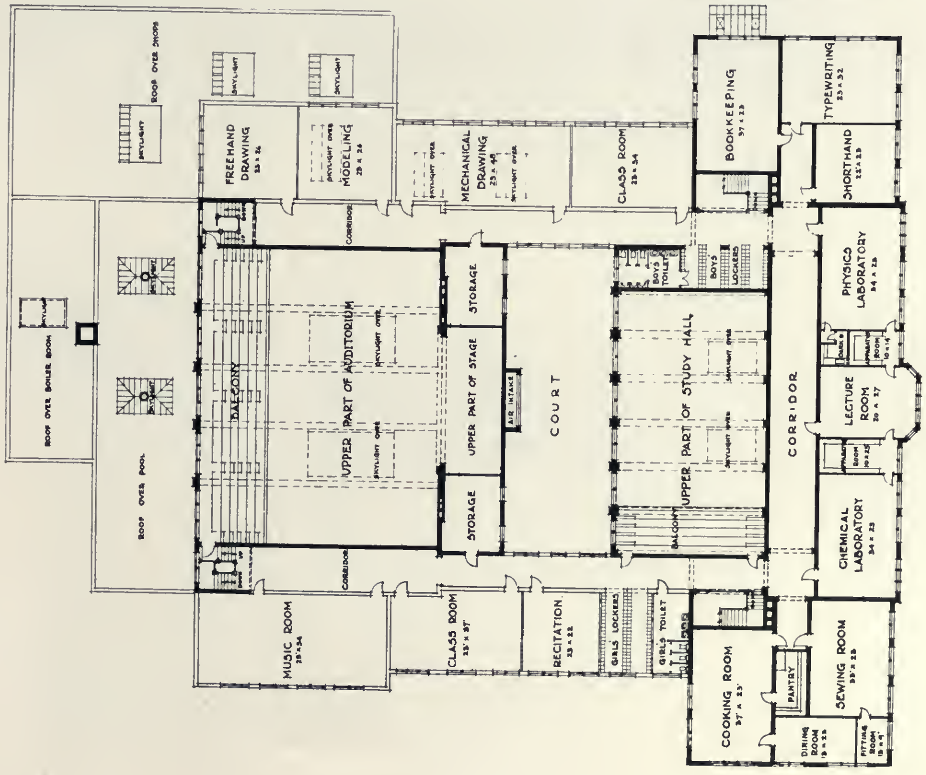


RIVERSIDE-BROOKFIELD HIGH SCHOOL, RIVERSIDE, ILL.

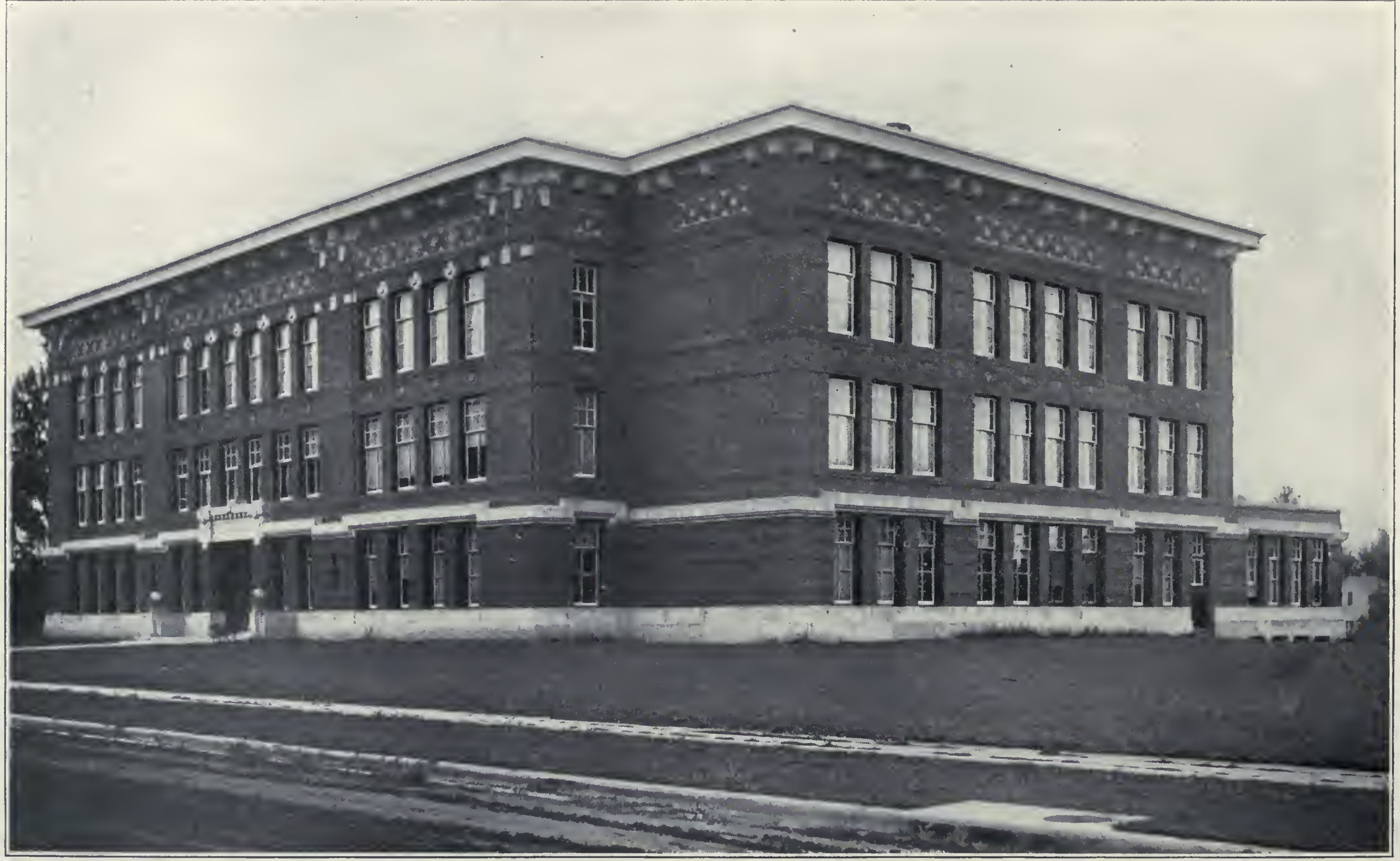
J. C. Llewellyn, Architect, Chicago, Ill.


STOCK
FINISHING
MILL ROOM
BENCH ROOM
FOUNDRY AND FORGE
MACHINE ROOM
RECITATION
CLASS ROOM
MEN TEACHERS
BIOLOGICAL LABORATORY
CLASS ROOM
RECITATION
BOILER ROOM
FUEL ROOM
BLEACHERS
SWIMMING POOL
HIGH WINDOWS
SHOWERS
BOYS LOCKERS
APPARATUS ROOM
GIRLS LOCKERS
AUDITORIUM AND GYMNASIUM
PHYSICAL DIRECTOR
STAGE
AIR INTAKE
COURT
BOYS TOILET
BOYS LOCKERS
STUDY HALL
GIRLS TOILET
GIRLS LOCKERS
CORRIDOR
PRINCIPAL
VAULT
SUP'T
OFFICE
LIBRARY
KITCHEN
LUNCH ROOM
MENS TOILET
CLUB ROOM
LADY TEACHERS
CLASS ROOM
RECITATION
CLASS ROOM

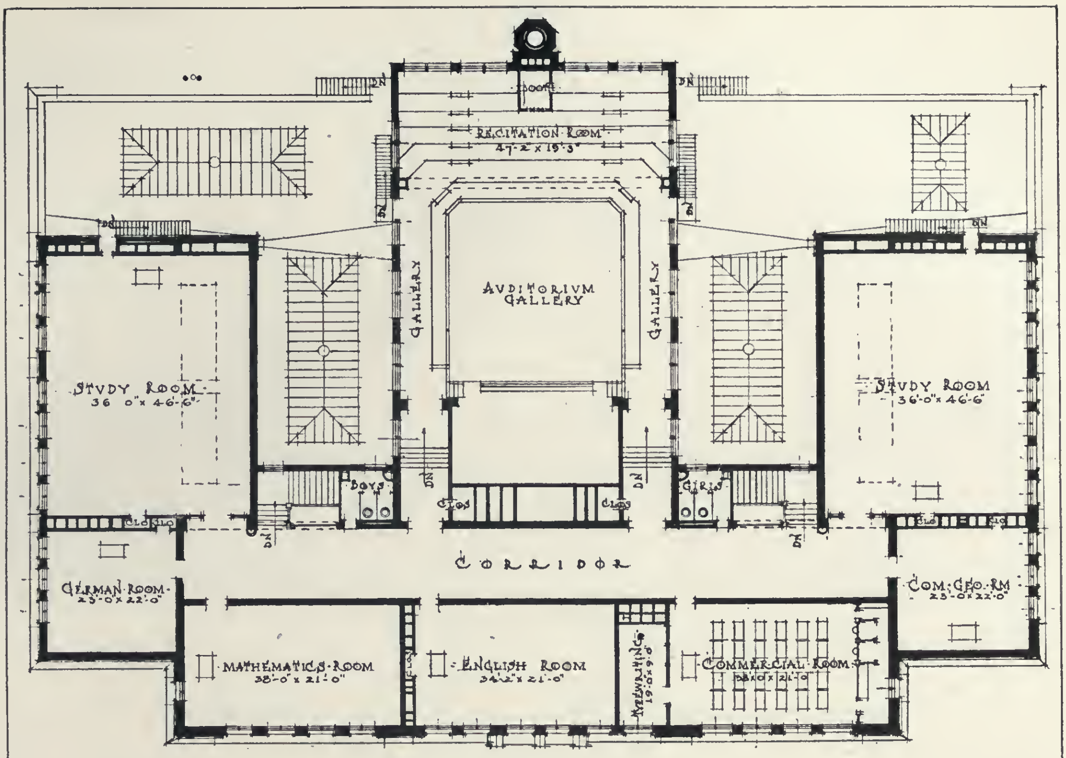
FIRST FLOOR PLAN,
RIVERSIDE-BROOKFIELD HIGH SCHOOL, RIVERSIDE, ILL.


ROOF OVER SHOPS
SKYLIGHT
FREEHAND DRAWING
MODELING
MECHANICAL DRAWING
SKYLIGHT OVER
CLASS ROOM
BOOKKEEPING
TYPEWRITING
SHORTHAND
ROOF OVER BOILER ROOM
ROOF OVER POOL
CORRIDOR
BALCONY
UPPER PART OF AUDITORIUM
STORAGE
UPPER PART OF STAGE
AIR INTAKE
COURT
BOYS TOILET
BOYS LOCKERS
UPPER PART OF STUDY HALL
BALCONY
CORRIDOR
PHYSICS LABORATORY
DARK ROOM
APPARATUS ROOM
LECTURE ROOM
CHEMICAL LABORATORY
MUSIC ROOM
CLASS ROOM
RECITATION
GIRLS LOCKERS
GIRLS TOILET
COOKING ROOM
PANTRY
SEWING ROOM
DINING ROOM
FITTING ROOM

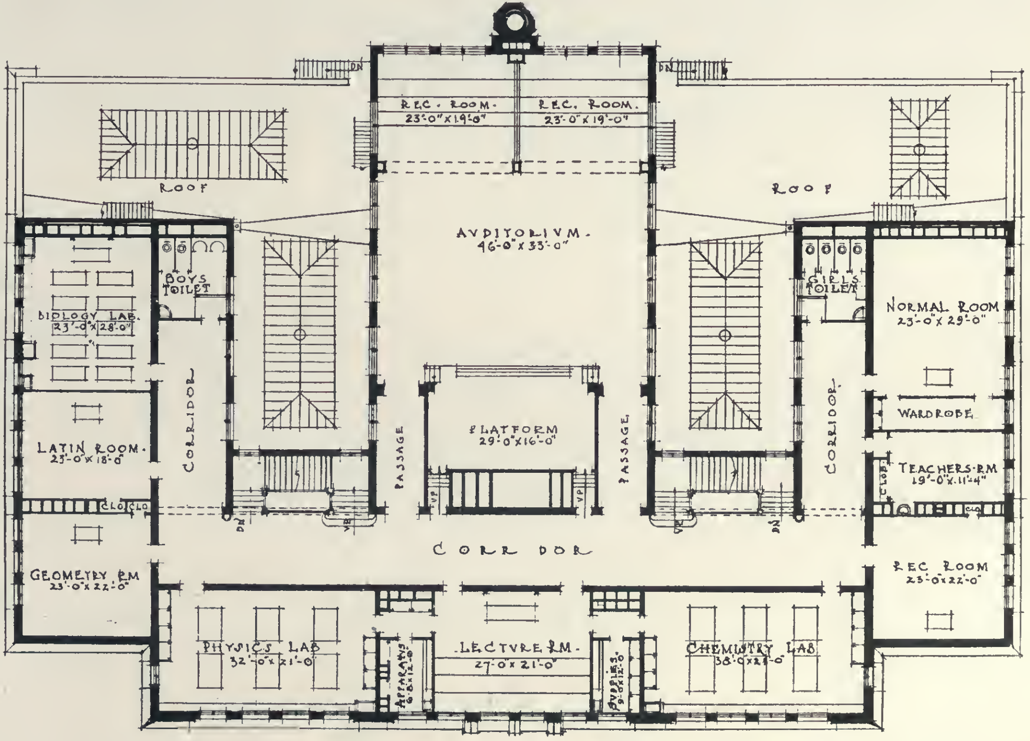
SECOND FLOOR PLAN,
RIVERSIDE-BROOKFIELD HIGH SCHOOL, RIVERSIDE, ILL.



HIGH SCHOOL, FAIRMONT, MINN.
Miller, Fullenwider & Dowling, Architects, Chicago, Ill.

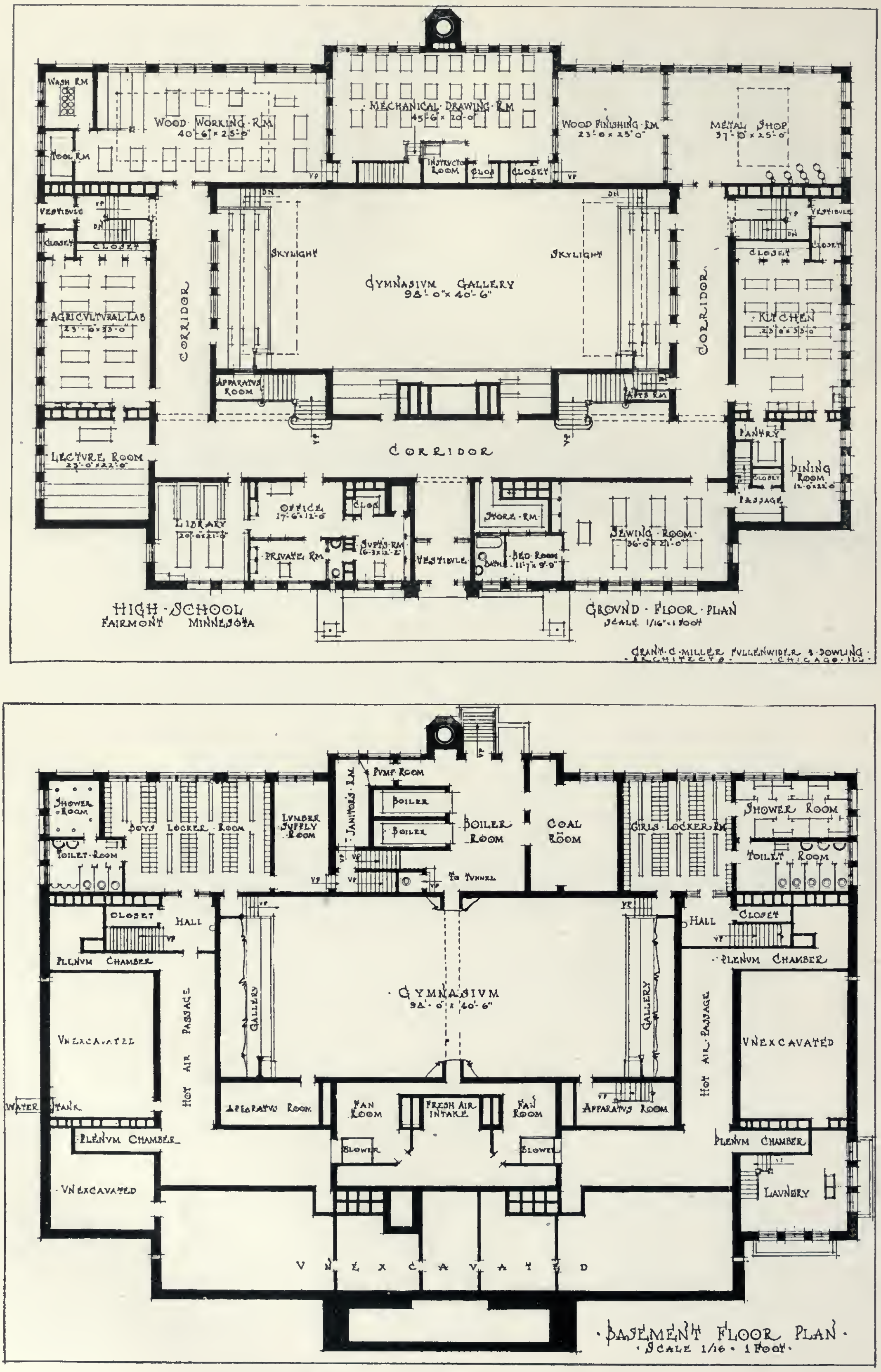

DN
DOOR
DN
RECITATION ROOM
47-2 x 19-3
DN
DN
DN
DN
AUDITORIUM GALLERY
GALLERY
GALLERY
STUDY ROOM
36-0" x 46-6"
STUDY ROOM
36-0" x 46-6"
BOYS
GIRLS
DN
DN
CLOS
CLOS
DN
DN
CLO
CLO
CLO
CLO
CORRIDOR
GERMAN ROOM
23-0" x 22-0"
COM. GEO. RM
23-0" x 22-0"
MATHEMATICS ROOM
38-0" x 21-0"
ENGLISH ROOM
34-2" x 21-0"
TYPEWRITING
19-0" x 9-0"
COMMERCIAL ROOM
38-0" x 21-0"

SECOND FLOOR PLAN
SCALE 1/16 IN = 1 FT

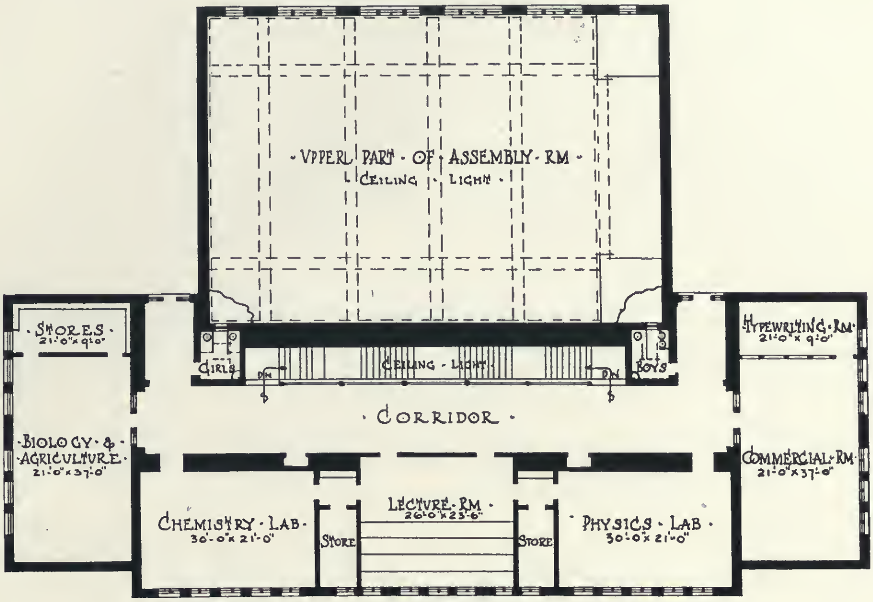

DN
DN
REC. ROOM
23-0" x 19-0"
REC. ROOM
23-0" x 19-0"
ROOF
ROOF
AUDITORIUM
46-0" x 33-0"
BOYS TOILET
GIRLS TOILET
BIOLOGY LAB.
23-0" x 28-0"
NORMAL ROOM
23-0" x 29-0"
CORRIDOR
CORRIDOR
PLATFORM
29-0" x 16-0"
PASSAGE
PASSAGE
WARDROBE
LATIN ROOM
23-0" x 18-0"
TEACHERS RM
19-0" x 11-4"
CLO
CLO
CLO
UP
UP
DN
DN
CORRIDOR
GEOMETRY RM
23-0" x 22-0"
REC ROOM
23-0" x 22-0"
PHYSICS LAB
32-0" x 21-0"
APPARATUS
6-8 x 12-0
LECTURE RM.
27-0" x 21-0"
SUPPLIES
9-0 x 12-0
CHEMISTRY LAB
38-0 x 21-0

FIRST FLOOR PLAN
SCALE 1/16 IN = 1 FT

FLOOR PLANS, HIGH SCHOOL, FAIRMONT, MINN.
Miller, Fullenwider & Dowling, Architects, Chicago, Ill.

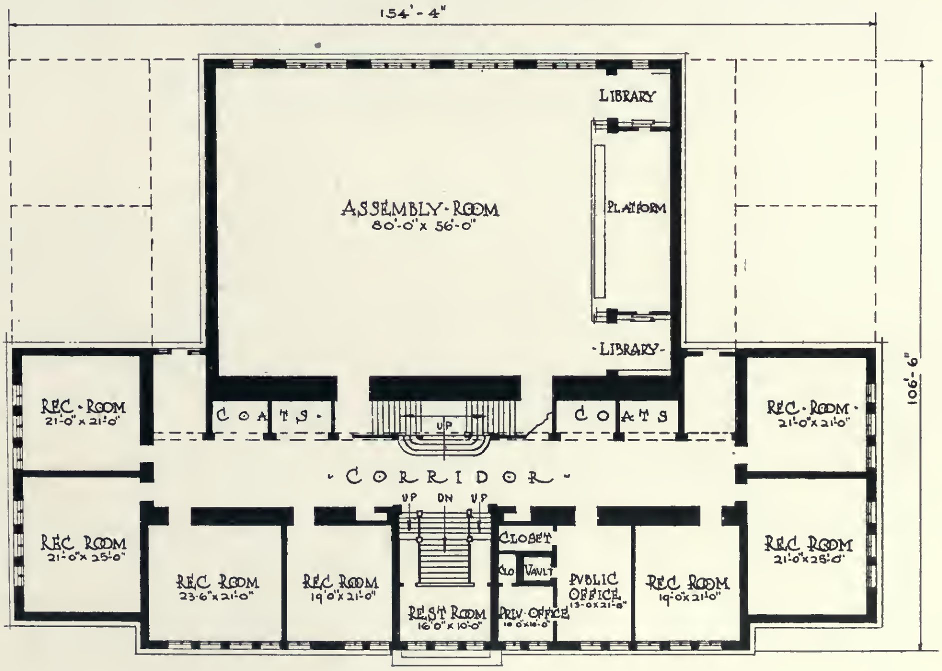

WASH RM
WOOD WORKING RM 40'-6" x 25'-0"
TOOL RM
MECHANICAL DRAWING RM 45'-6" x 20'-0"
INSTRUCTOR ROOM
CLOS
CLOSET
WOOD FINISHING RM 23'-0" x 25'-0"
METAL SHOP 37'-0" x 25'-0"
VESTIBULE
CLOSET
SKYLIGHT
GYMNASIUM GALLERY 98'-0" x 40'-6"
CORRIDOR
AGRICULTURAL LAB 23'-0" x 33'-0"
KITCHEN 23'-0" x 33'-0"
APPARATUS ROOM
APP'S RM
PANTRY
LECTURE ROOM 23'-0" x 22'-0"
DINING ROOM 12'-0" x 22'-0"
PASSAGE
OFFICE 17'-6" x 12'-0"
LIBRARY 20'-0" x 21'-0"
PRIVATE RM
SUPT'S RM 16'-3" x 12'-2"
VESTIBULE
STORE RM
BATH
BED ROOM 11'-7" x 9'-9"
SEWING ROOM 36'-0" x 21'-0"
HIGH SCHOOL FAIRMONT MINNESOTA
GROUND FLOOR PLAN SCALE 1/16" = 1 FOOT
GRANT C. MILLER FULLENWIDER & DOWLING ARCHITECTS CHICAGO ILL.
SHOWER ROOM
TOILET ROOM
BOYS LOCKER ROOM
LUMBER SUPPLY ROOM
JANITOR'S RM
PUMP ROOM
BOILER
BOILER
BOILER ROOM
COAL ROOM
TO TUNNEL
GIRLS LOCKER RM
SHOWER ROOM
TOILET ROOM
CLOSET
HALL
PLENUM CHAMBER
GYMNASIUM 98'-0" x 40'-6"
GALLERY
UNEXCAVATED
HOT AIR PASSAGE
WATER TANK
APPARATUS ROOM
FAN ROOM
FRESH AIR INTAKE
BLOWER
LAUNDRY
UNEXCAVATED
BASEMENT FLOOR PLAN SCALE 1/16 = 1 FOOT

FLOOR PLANS, HIGH SCHOOL, FAIRMONT, MINN.


VPPER PART · OF · ASSEMBLY · RM
CEILING · LIGHT
STORES 21'-0" x 9'-0"
GIRLS
DN
CEILING · LIGHT
DN
BOYS
TYPEWRITING · RM · 21'-0" x 9'-0"
CORRIDOR
BIOLOGY & AGRICULTURE 21'-0" x 37'-0"
COMMERCIAL · RM 21'-0" x 37'-0"
CHEMISTRY · LAB · 30'-0" x 21'-0"
STORE
LECTURE · RM · 26'-0" x 23'-6"
STORE
PHYSICS · LAB · 30'-0" x 21'-0"

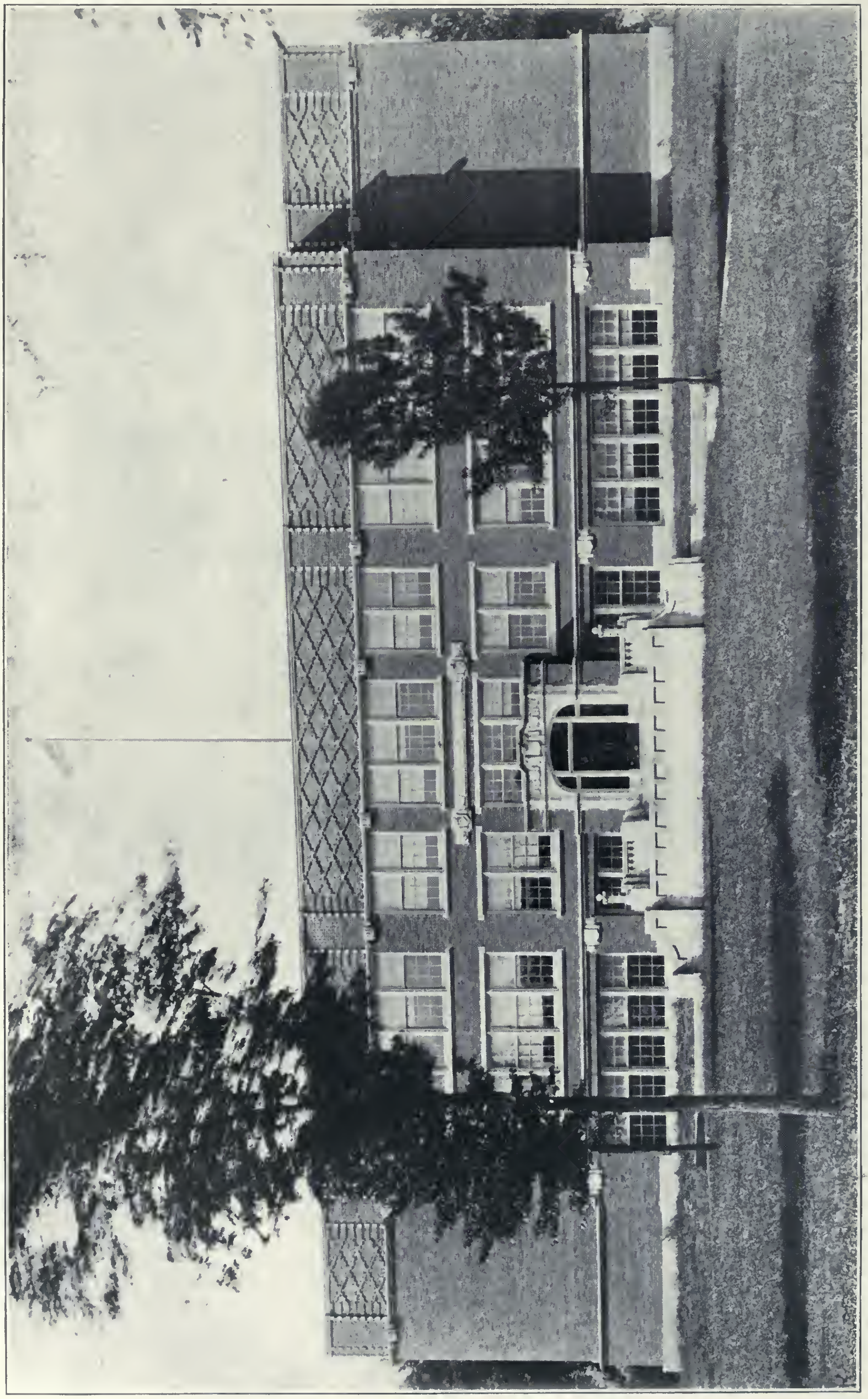
SECOND · FLOOR · PLAN ·
· SCALE · 1/16 IN = 1 FOOT.

HIGH SCHOOL.
MENDOTA. ILL.


154'-4"
106'-6"
LIBRARY
ASSEMBLY · ROOM 80'-0" x 56'-0"
PLATFORM
· LIBRARY ·
REC · ROOM 21'-0" x 21'-0"
COATS ·
UP
COATS
REC · ROOM · 21'-0" x 21'-0"
· CORRIDOR ·
UP DN UP
REC ROOM 21'-0" x 25'-0"
REC ROOM 23'-6" x 21'-0"
REC ROOM 19'-0" x 21'-0"
REST ROOM 16'-0" x 10'-0"
CLOSET
CLO
VAULT
PRIV. OFFICE 10'-0" x 10'-0"
PUBLIC OFFICE 13'-0" x 21'-0"
REC ROOM 19'-0" x 21'-0"
REC ROOM 21'-0" x 25'-0"

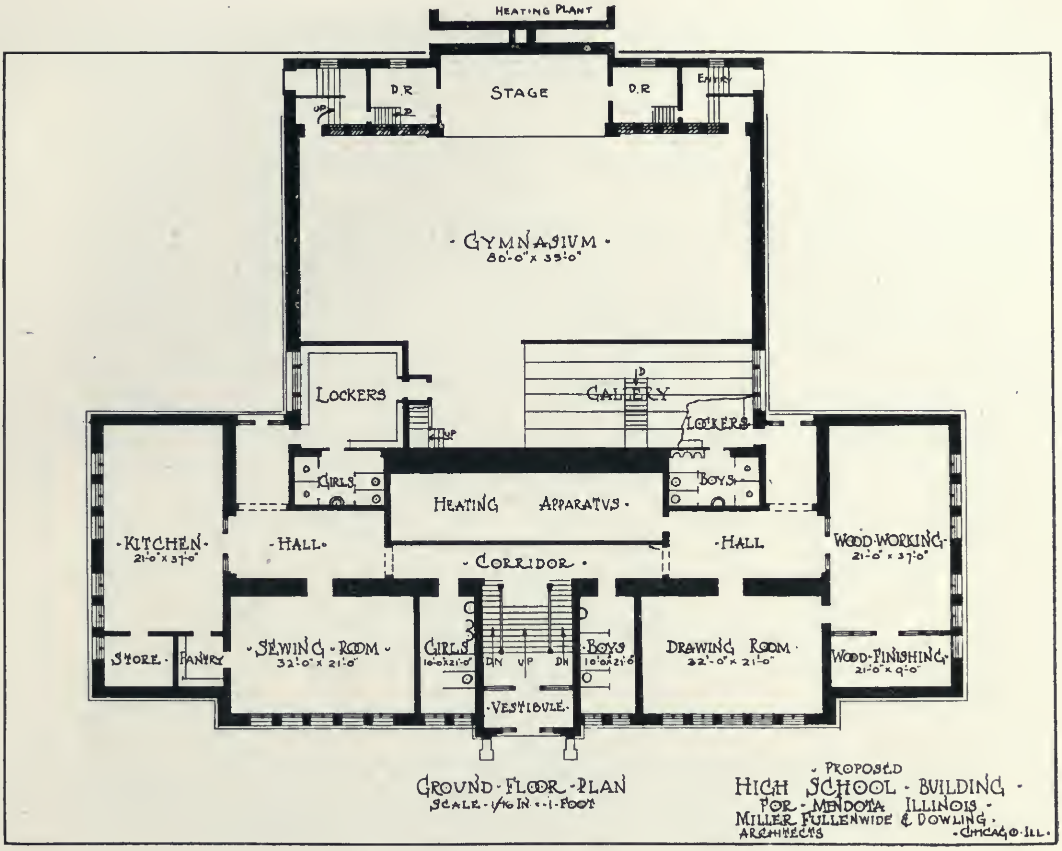
· FIRST · FLOOR · PLAN ·
SCALE · 1/16 IN · 1 FOOT ·

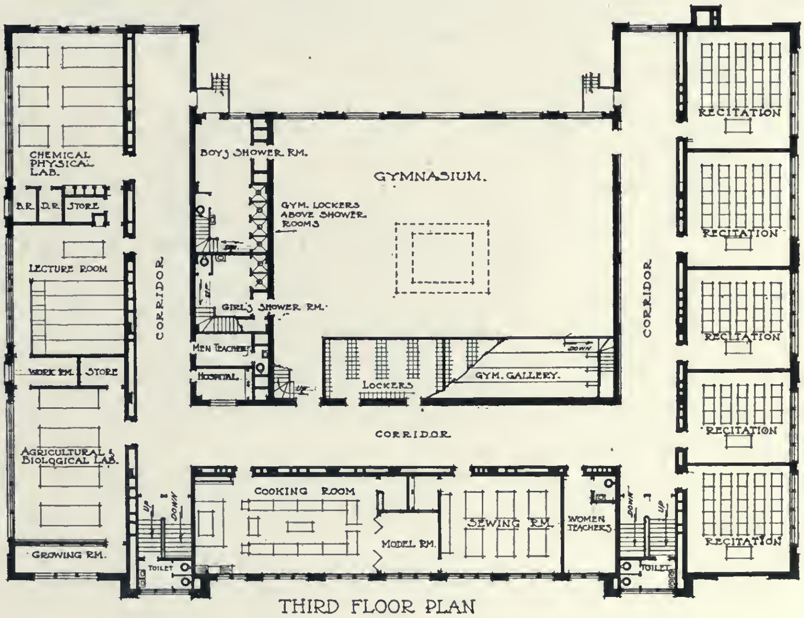
HIGH SCHOOL
MENDOTA. ILL.



HIGH SCHOOL, MENDOTA, ILL.

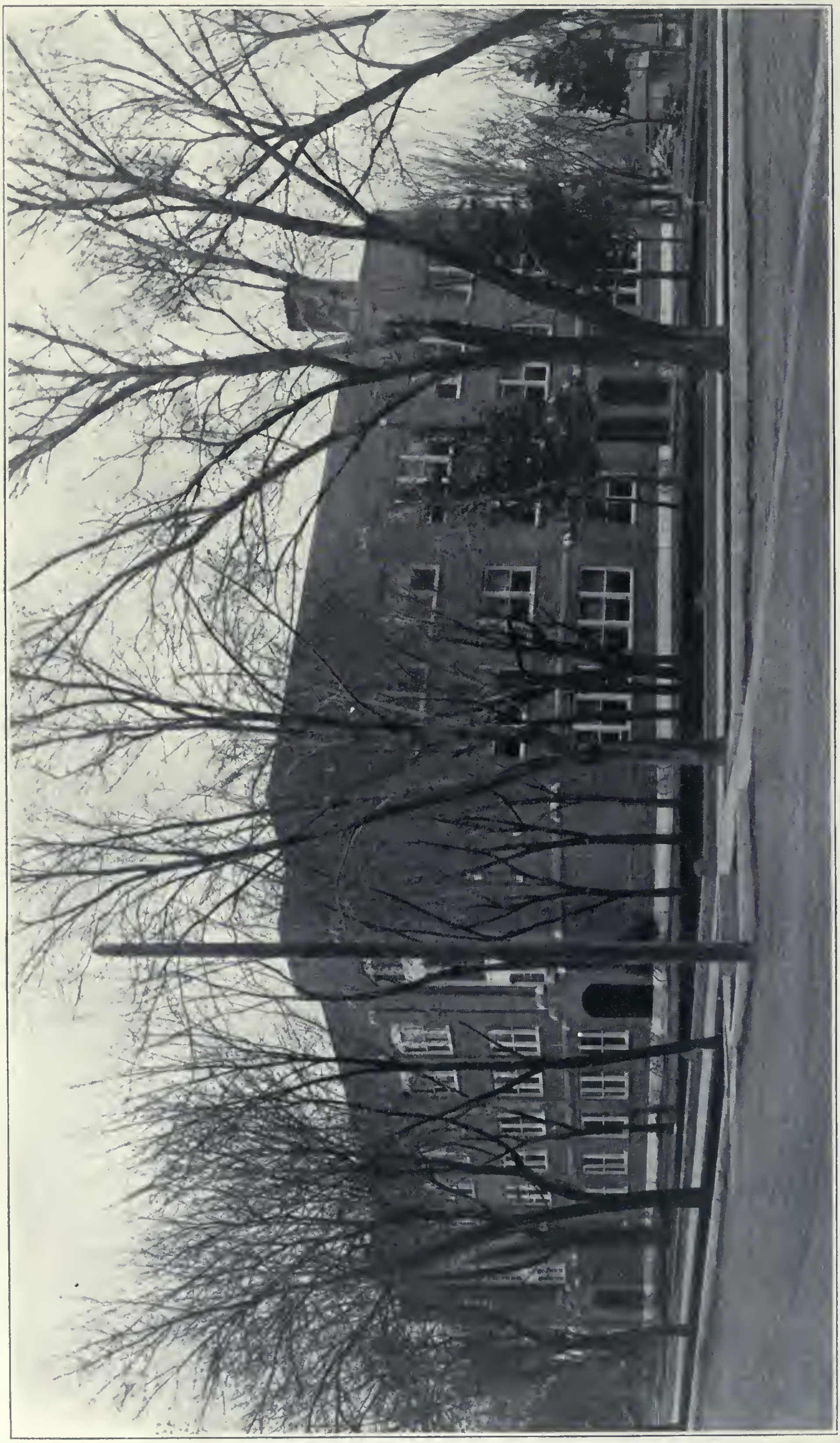
Miller, Fullenwider & Dowling, Architects, Chicago, Ill.


HEATING PLANT
D.R
STAGE
D.R
ENTRY
UP
· GYMNASIUM ·
80'-0" x 35'-0"
LOCKERS
GALLERY
LOCKERS
UP
GIRLS
BOYS
HEATING APPARATUS ·
· KITCHEN ·
21'-0" x 37'-0"
· HALL ·
· CORRIDOR ·
· HALL
WOOD WORKING
21'-0" x 37'-0"
STORE ·
PANTRY
· SEWING · ROOM ·
32'-0" x 21'-0"
GIRLS
10'-0 x 21'-0"
DN
UP
DN
· BOYS
10'-0 x 21'-0"
DRAWING ROOM ·
32'-0" x 21'-0"
WOOD-FINISHING
21'-0" x 9'-0"
· VESTIBULE ·
GROUND · FLOOR · PLAN
SCALE · 1/16 IN · = · 1 · FOOT
· PROPOSED
HIGH SCHOOL · BUILDING ·
FOR · MENDOTA ILLINOIS ·
MILLER FULLENWIDE & DOWLING ·
ARCHITECTS
· CHICAGO · ILL ·


CHEMICAL PHYSICAL LAB.
B.R.
D.R.
STORE
LECTURE ROOM
WORK RM.
STORE
AGRICULTURAL & BIOLOGICAL LAB.
GROWING RM.
CORRIDOR
UP
DOWN
TOILET
BOYS SHOWER RM.
GYM. LOCKERS ABOVE SHOWER ROOMS
GIRLS SHOWER RM.
MEN TEACHERS
HOSPITAL
GYMNASIUM.
LOCKERS
GYM. GALLERY.
DOWN
CORRIDOR
COOKING ROOM
MODEL RM.
SEWING RM.
WOMEN TEACHERS
DOWN
UP
TOILET
CORRIDOR
RECITATION
RECITATION
RECITATION
RECITATION
RECITATION

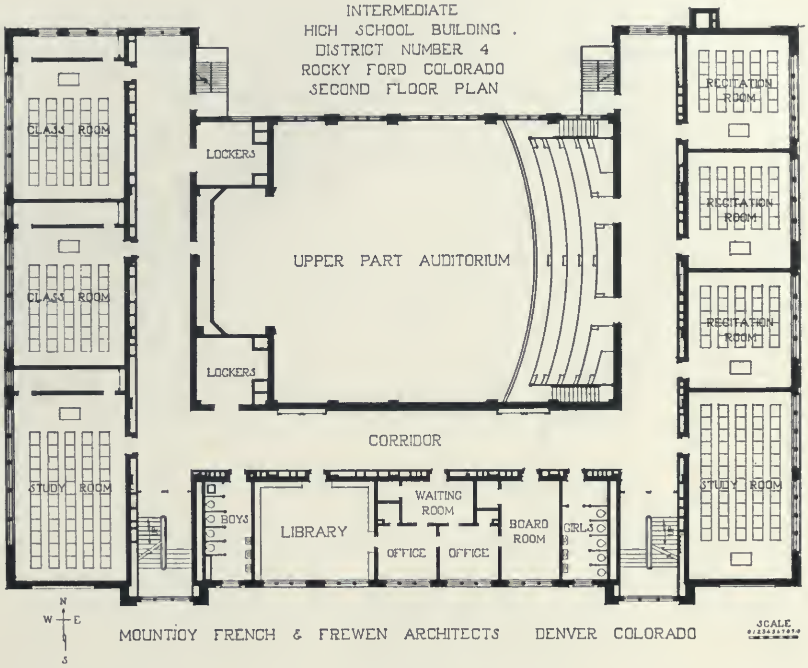
THIRD FLOOR PLAN

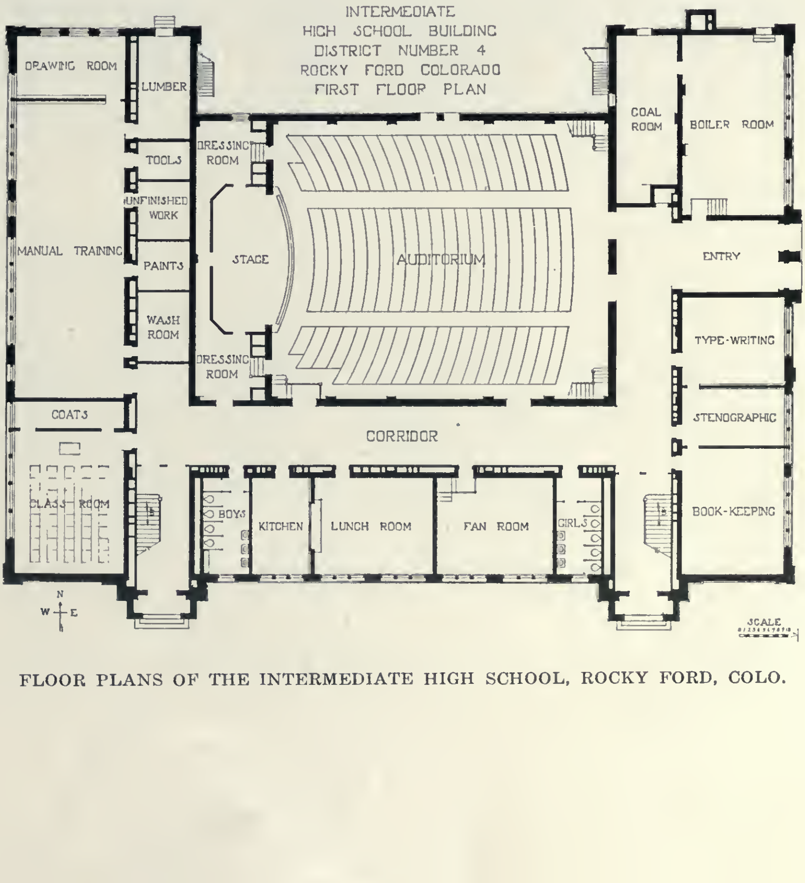
THIRD FLOOR PLAN, INTERMEDIATE HIGH SCHOOL, ROCKY FORD, COLO.



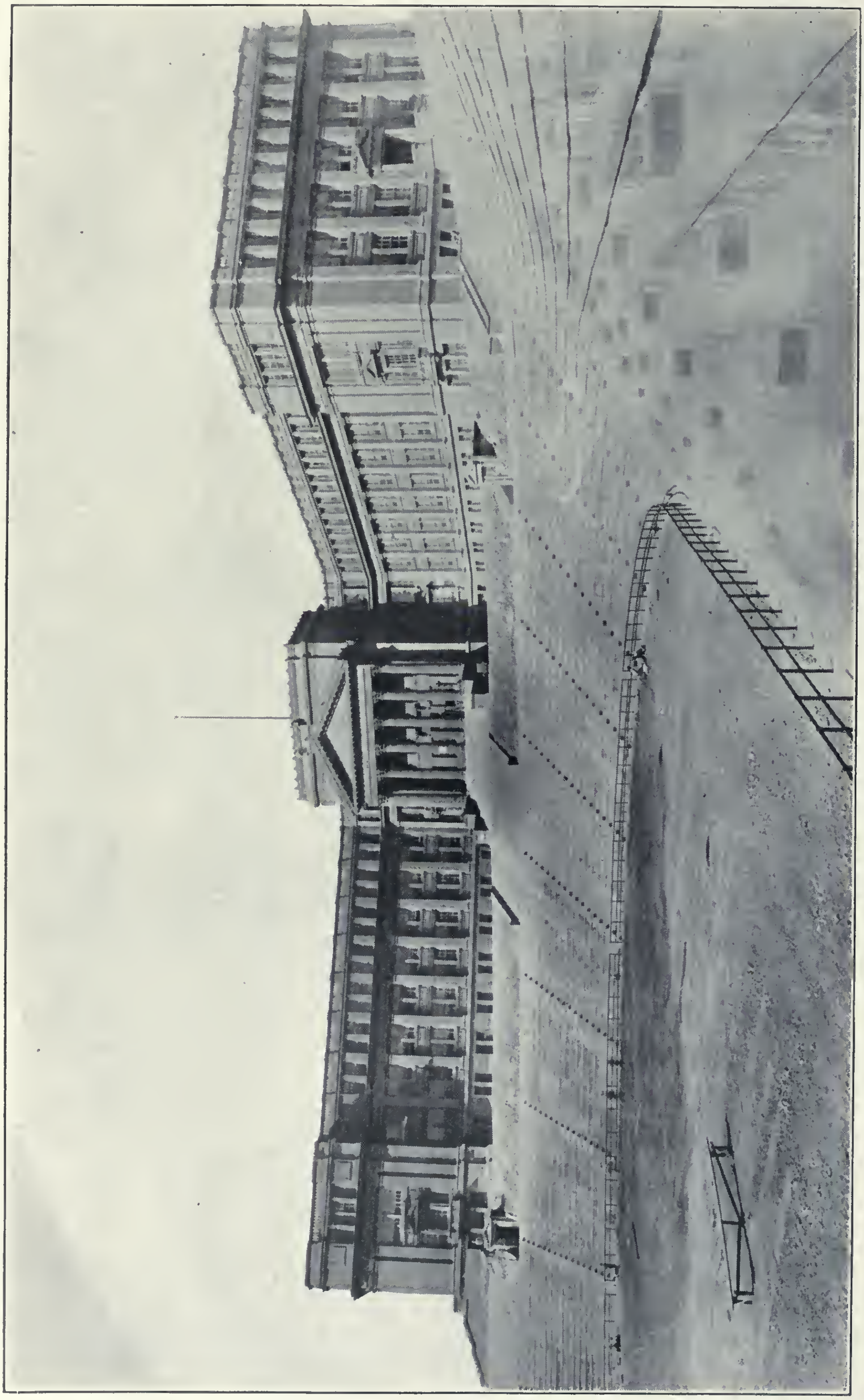
ROCKY FORD INTERMEDIATE HIGH SCHOOL, ROCKY FORD, COLO.

Mountjoy, French & Frewen, Architects, Denver, Colo.


INTERMEDIATE
HIGH SCHOOL BUILDING
DISTRICT NUMBER 4
ROCKY FORD COLORADO
SECOND FLOOR PLAN
CLASS ROOM
CLASS ROOM
STUDY ROOM
LOCKERS
LOCKERS
UPPER PART AUDITORIUM
RECITATION ROOM
RECITATION ROOM
RECITATION ROOM
STUDY ROOM
CORRIDOR
BOYS
LIBRARY
WAITING ROOM
OFFICE
OFFICE
BOARD ROOM
GIRLS
N
W
E
S
MOUNTJOY FRENCH & FREWEN ARCHITECTS DENVER COLORADO
SCALE

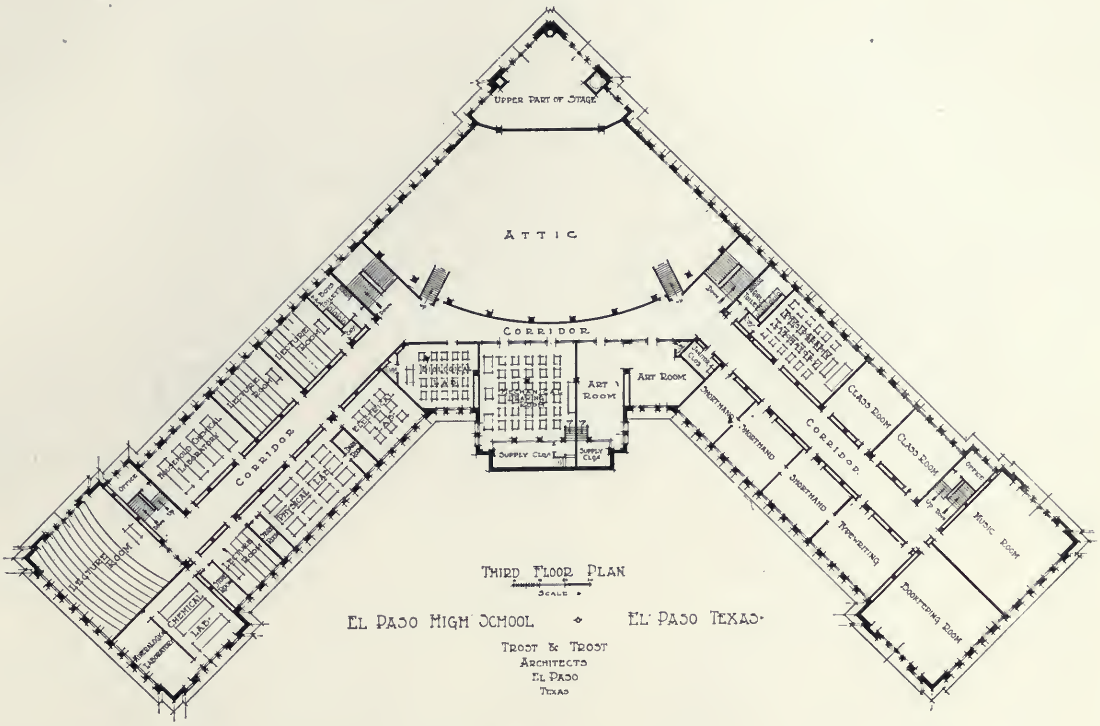

INTERMEDIATE
HIGH SCHOOL BUILDING
DISTRICT NUMBER 4
ROCKY FORD COLORADO
FIRST FLOOR PLAN
DRAWING ROOM
LUMBER
TOOLS
UNFINISHED WORK
PAINTS
WASH ROOM
MANUAL TRAINING
COATS
CLASS ROOM
DRESSING ROOM
STAGE
DRESSING ROOM
AUDITORIUM
COAL ROOM
BOILER ROOM
ENTRY
TYPE-WRITING
STENOGRAPHIC
BOOK-KEEPING
CORRIDOR
BOYS
KITCHEN
LUNCH ROOM
FAN ROOM
GIRLS
N
W
E
SCALE

FLOOR PLANS OF THE INTERMEDIATE HIGH SCHOOL, ROCKY FORD, COLO.



HIGH SCHOOL, EL PASO, TEX.

Trost & Trost, Architects, El Paso.

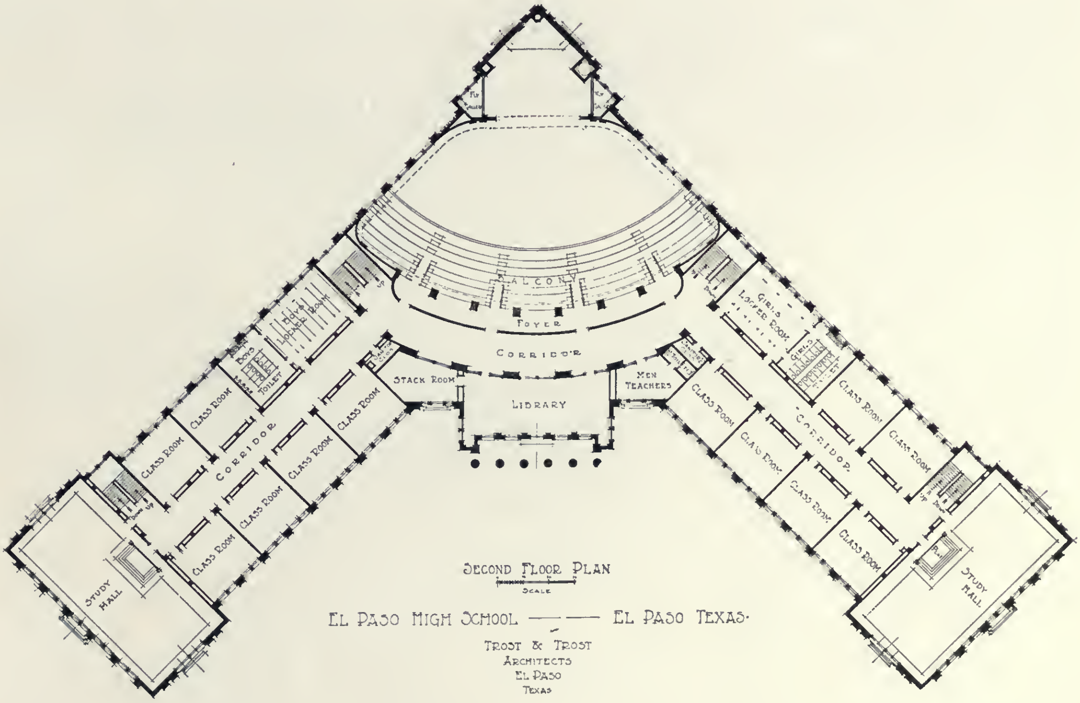

UPPER PART OF STAGE
ATTIC
CORRIDOR
BOYS TOILET ROOM
LECTURE ROOM
LECTURE ROOM
HOUSEHOLD CHEMICAL LABORATORY
OFFICE
CORRIDOR
LECTURE ROOM
BIOLOGICAL LAB.
ELECTRICAL LAB.
DARK ROOM
PHYSICAL LAB.
STORE ROOM
LECTURE ROOM
STORE ROOM
CHEMICAL LAB.
MINERALOGICAL LABORATORY
DRAWING ROOM
SUPPLY CLOS.
SUPPLY CLOS.
ART ROOM
ART ROOM
JANITOR CLOS.
GIRLS TOILET
PHYSIOGRAPHY LABORATORY
SHORTHAND
SHORTHAND
SHORTHAND
TYPEWRITING
CORRIDOR
CLASS ROOM
CLASS ROOM
OFFICE
MUSIC ROOM
BOOKKEEPING ROOM

THIRD FLOOR PLAN

SCALE

EL PASO HIGH SCHOOL ◆ EL PASO TEXAS

TROST & TROST
ARCHITECTS
EL PASO
TEXAS

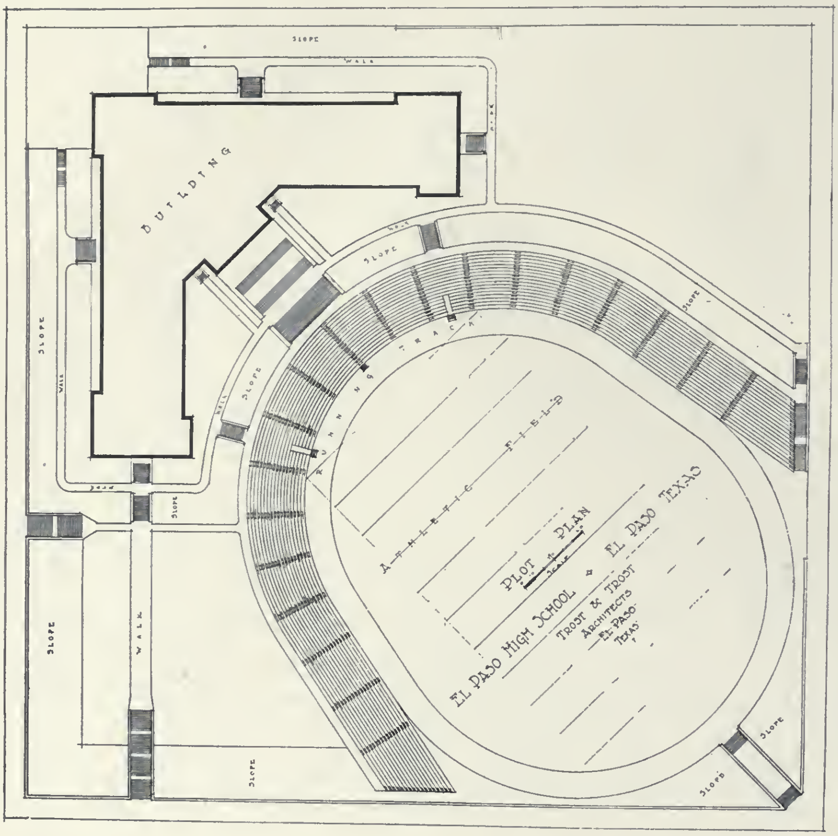

BALCONY
FOYER
CORRIDOR
BOYS LOCKER ROOM
BOYS TOILET
JANITOR CLOS.
STACK ROOM
LIBRARY
MEN TEACHERS
JANITOR CLOS.
GIRLS LOCKER ROOM
GIRLS TOILET
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CORRIDOR
STUDY HALL
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CORRIDOR
STUDY HALL

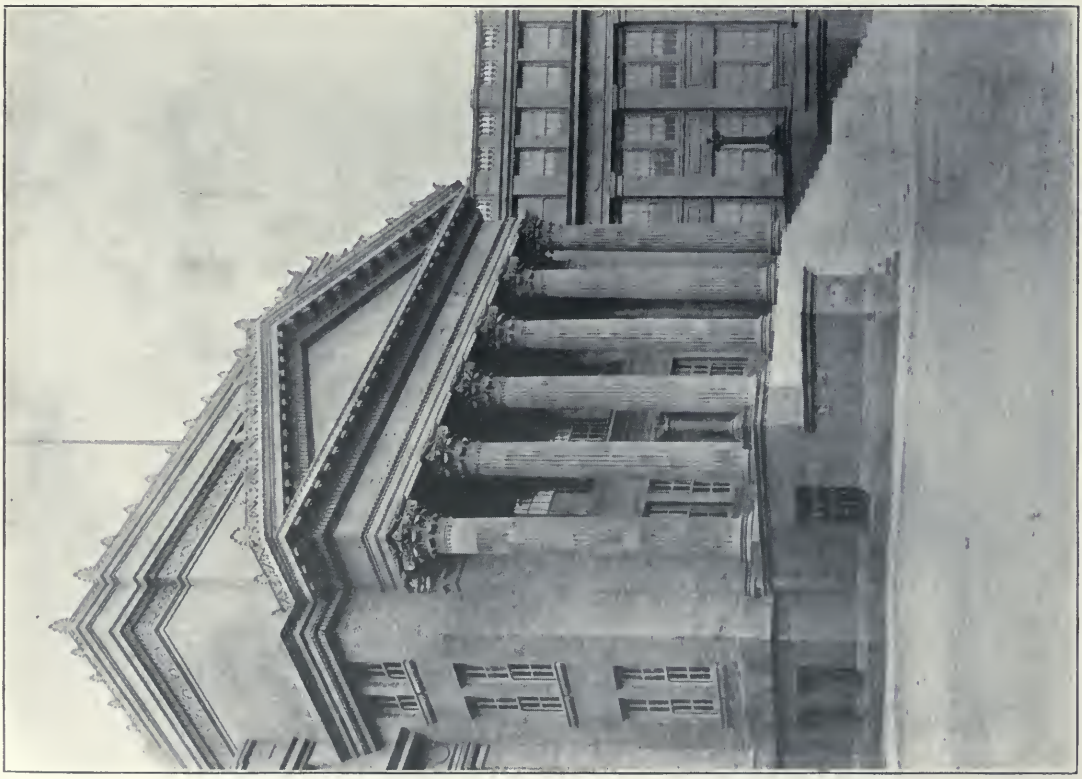
SECOND FLOOR PLAN

SCALE

EL PASO HIGH SCHOOL —— EL PASO TEXAS

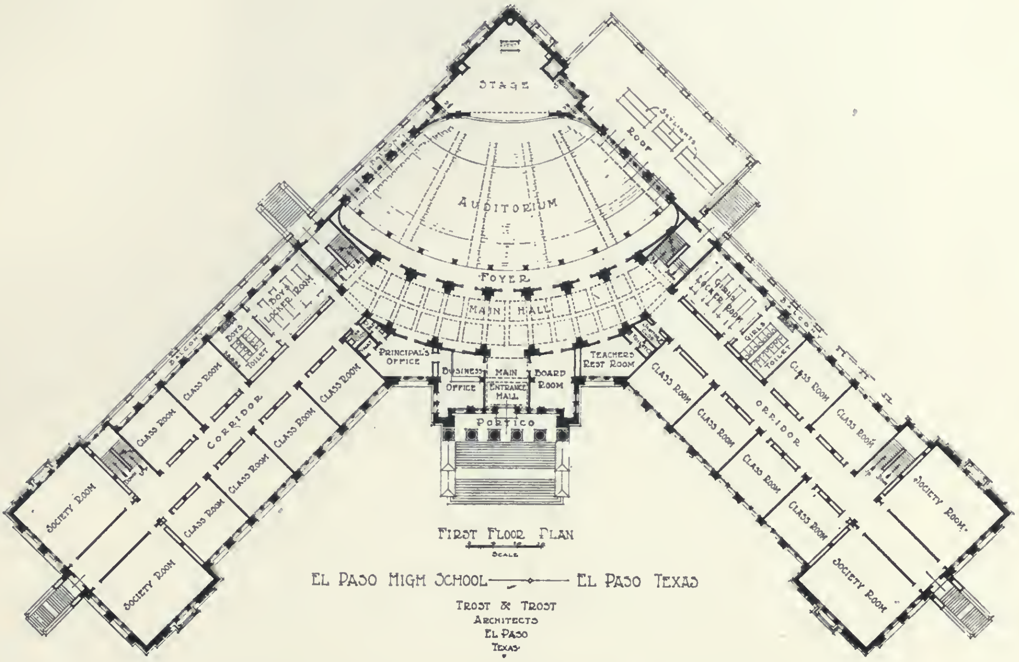
TROST & TROST
ARCHITECTS
EL PASO
TEXAS


BUILDING
SLOPE
WALK
SLOPE
WALK
SLOPE
RUNNING TRACK
ATHLETIC FIELD
PLOT PLAN
SCALE
EL PASO HIGH SCHOOL ◆ EL PASO TEXAS
TROST & TROST
ARCHITECTS
EL PASO
TEXAS



DETAIL OF ENTRANCE AND PLAT PLAN, HIGH SCHOOL, EL PASO, TEX.

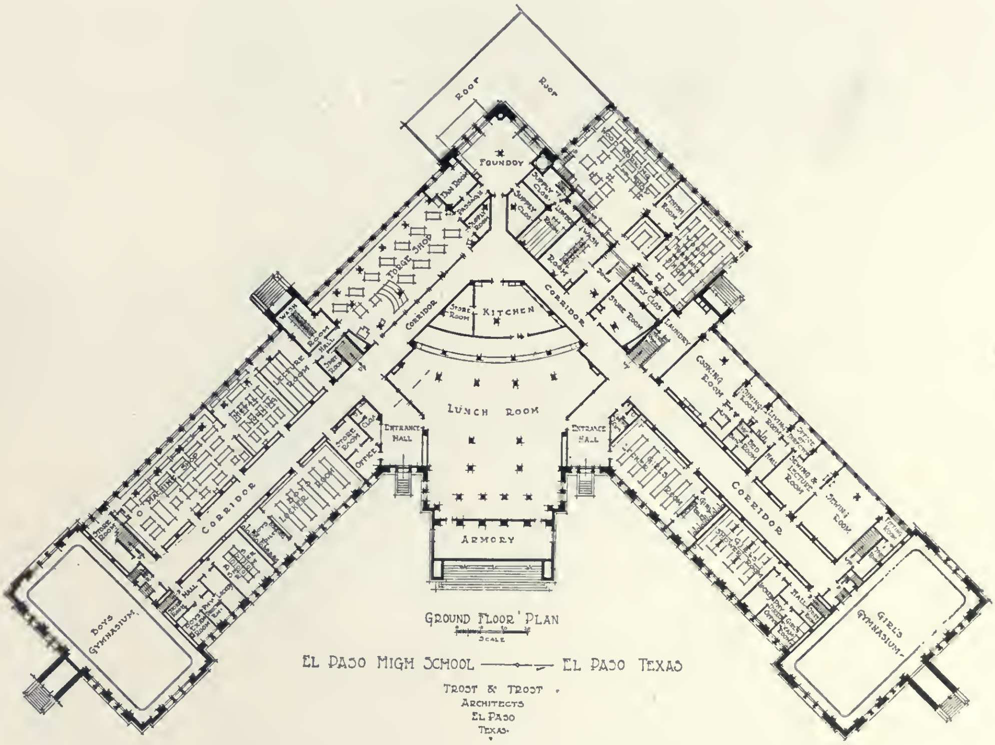
Trost & Trost, Architects, El Paso.


STAGE
ROOF
SKYLIGHTS
AUDITORIUM
FOYER
MAIN HALL
PRINCIPAL'S OFFICE
BUSINESS OFFICE
MAIN ENTRANCE HALL
BOARD ROOM
TEACHERS REST ROOM
PORTICO
BOYS LOCKER ROOM
BOYS TOILET
GIRLS LOCKER ROOM
GIRLS TOILET
BALCONY
CLASS ROOM
CORRIDOR
SOCIETY ROOM
SCALE

FIRST FLOOR PLAN

EL PASO HIGH SCHOOL —— EL PASO TEXAS

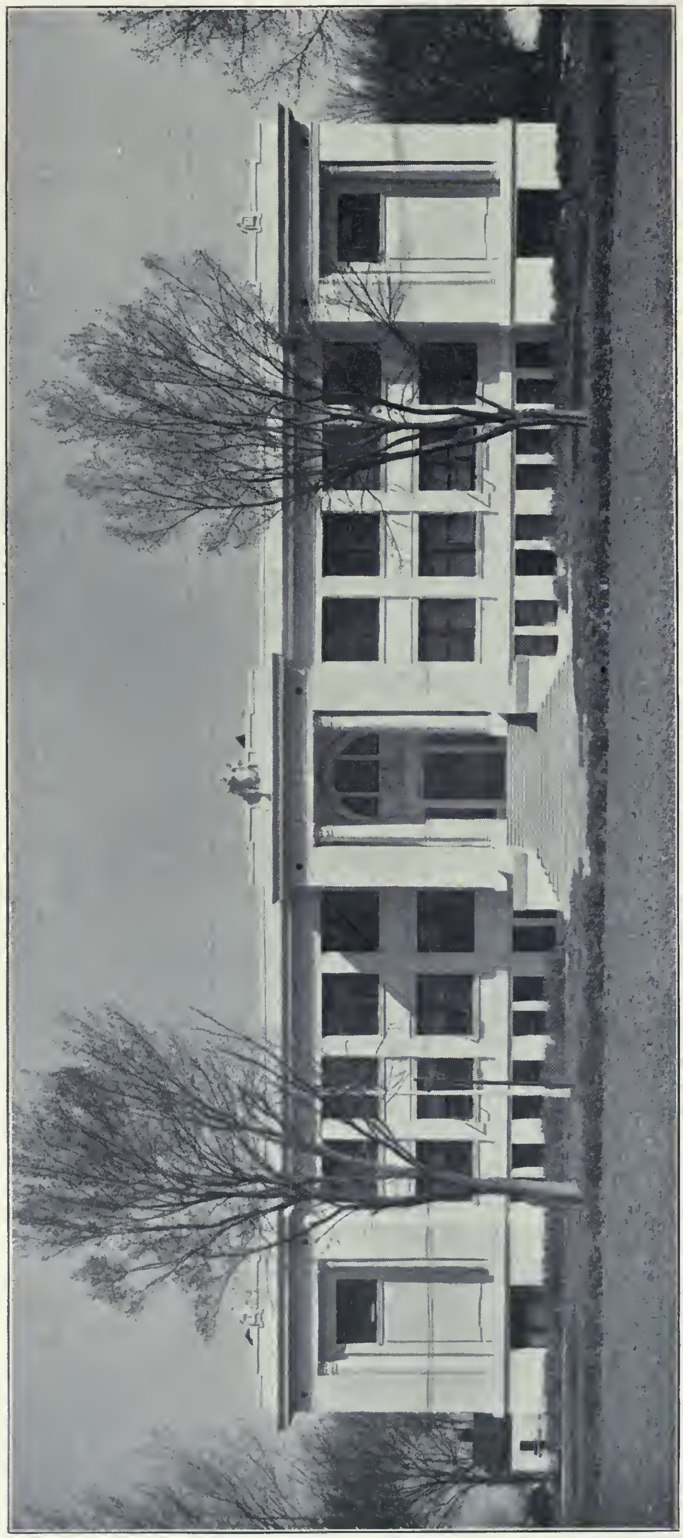
TROST & TROST
ARCHITECTS
EL PASO
TEXAS


ROOF
ROOF
FOUNDRY
FORGE SHOP
SUPPLY CLOS.
CORRIDOR
STORE ROOM
KITCHEN
LUNCH ROOM
ENTRANCE HALL
ARMORY
MACHINE SHOP
LECTURE ROOM
LOCKER ROOM
OFFICE
HALL
BOYS GYMNASIUM
LAUNDRY
COOKING ROOM
DINING ROOM
LIVING ROOM
BED ROOM
SEWING & LECTURE ROOM
SEWING ROOM
GIRL'S GYMNASIUM
SCALE

GROUND FLOOR PLAN

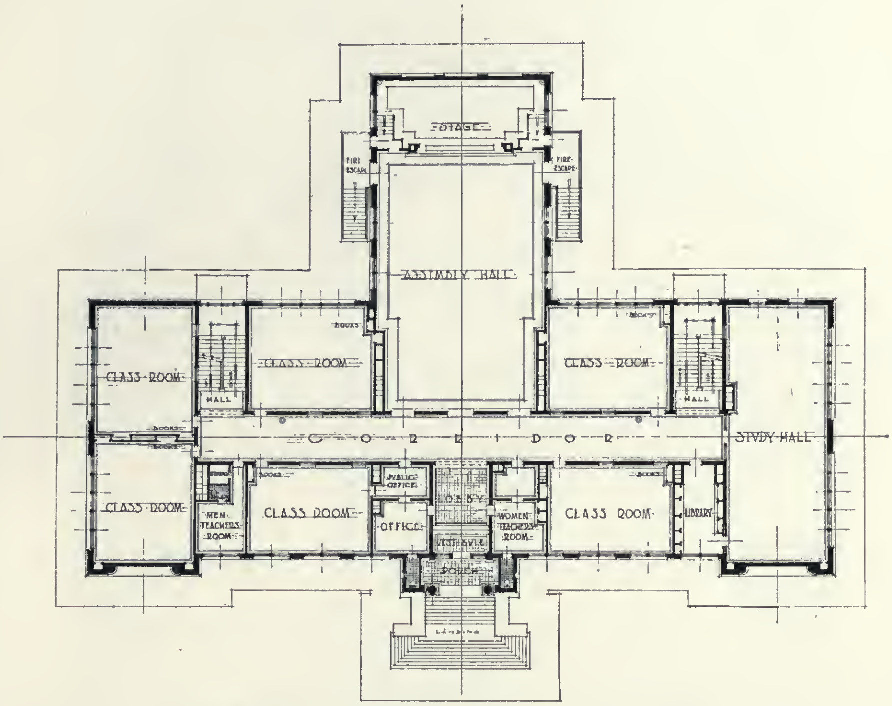
EL PASO HIGH SCHOOL —— EL PASO TEXAS

TROST & TROST
ARCHITECTS
EL PASO
TEXAS

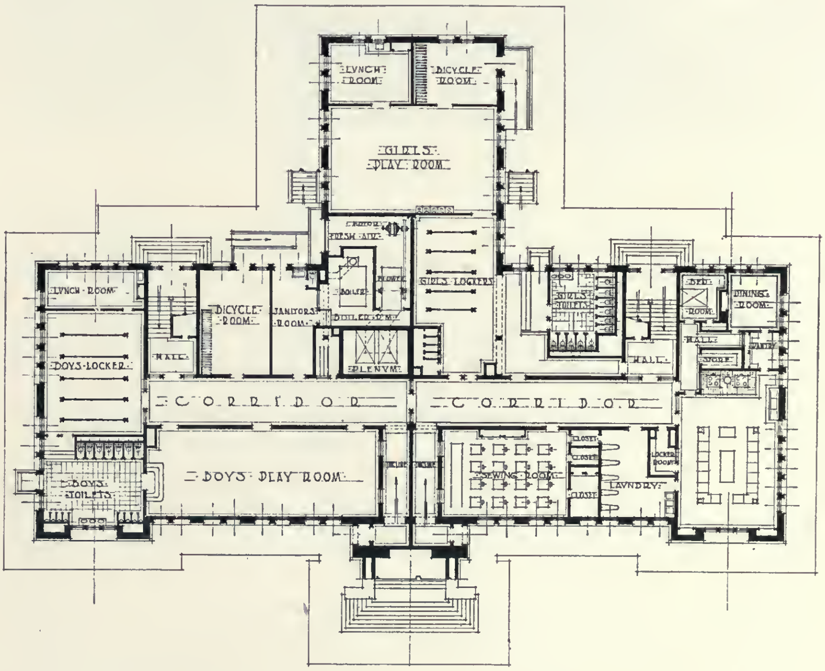


HIGH SCHOOL, WOODLAND, CAL.

W. H. Weeks, Architect, San Francisco, Cal.

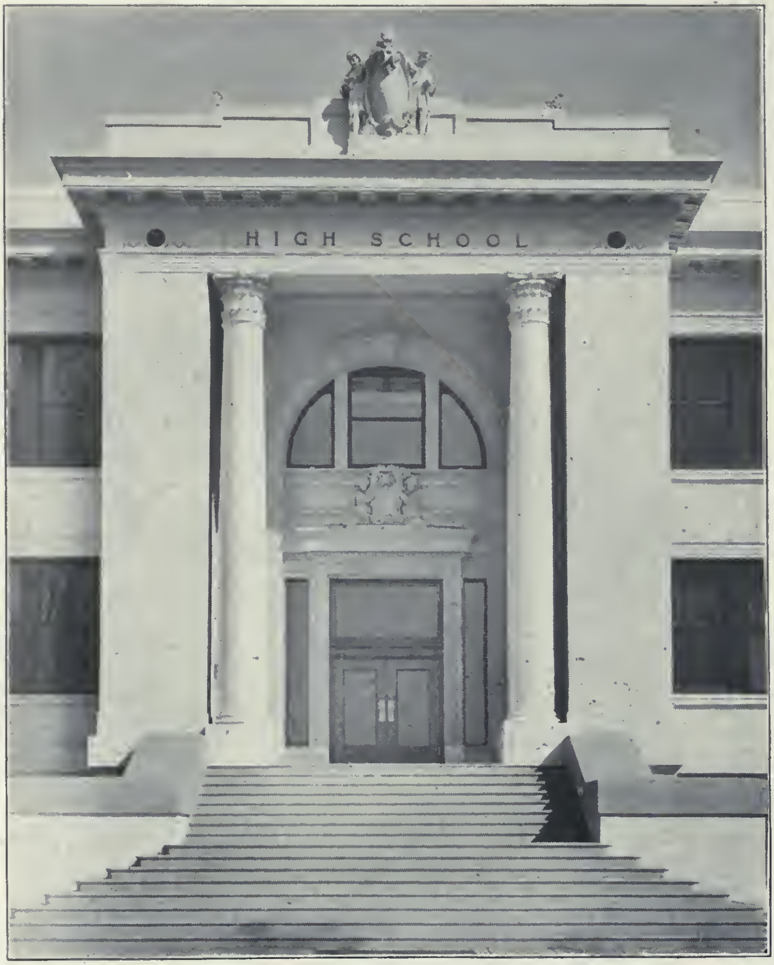

STAGE
FIRE ESCAPE
FIRE ESCAPE
ASSEMBLY HALL
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
BOOKS
HALL
HALL
CORRIDOR
STUDY HALL
PUBLIC OFFICE
LOBBY
OFFICE
MEN TEACHERS ROOM
WOMEN TEACHERS ROOM
LIBRARY
VESTIBULE
PORCH
LANDING

FIRST FLOOR PLAN, HIGH SCHOOL, WOODLAND, CAL.

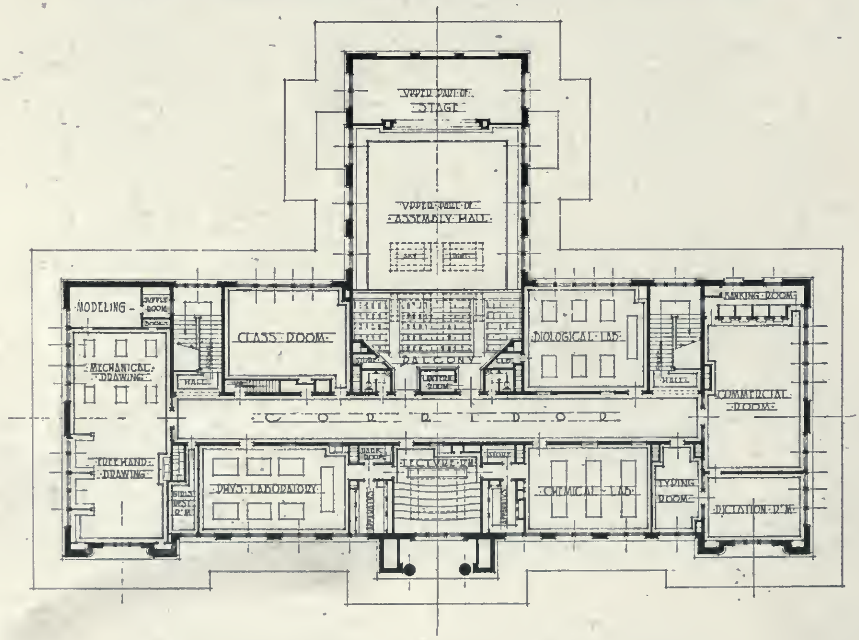

LUNCH ROOM
BICYCLE ROOM
GIRLS PLAY ROOM
FRESH AIR
BOILER
BOILER ROOM
GIRLS LOCKERS
LUNCH ROOM
BOYS LOCKER
HALL
BICYCLE ROOM
JANITORS ROOM
PLENUM
GIRLS TOILETS
HALL
BED ROOM
DINING ROOM
HALL
STORE
PANTRY
CORRIDOR
CORRIDOR
BOYS TOILETS
BOYS PLAY ROOM
SEWING ROOM
CLOSET
CLOSET
CLOSET
LAUNDRY
LOCKER ROOM

BASEMENT PLAN, HIGH SCHOOL, WOODLAND, CAL.

W. H. Weeks, Architect, San Francisco, Cal.


HIGH SCHOOL

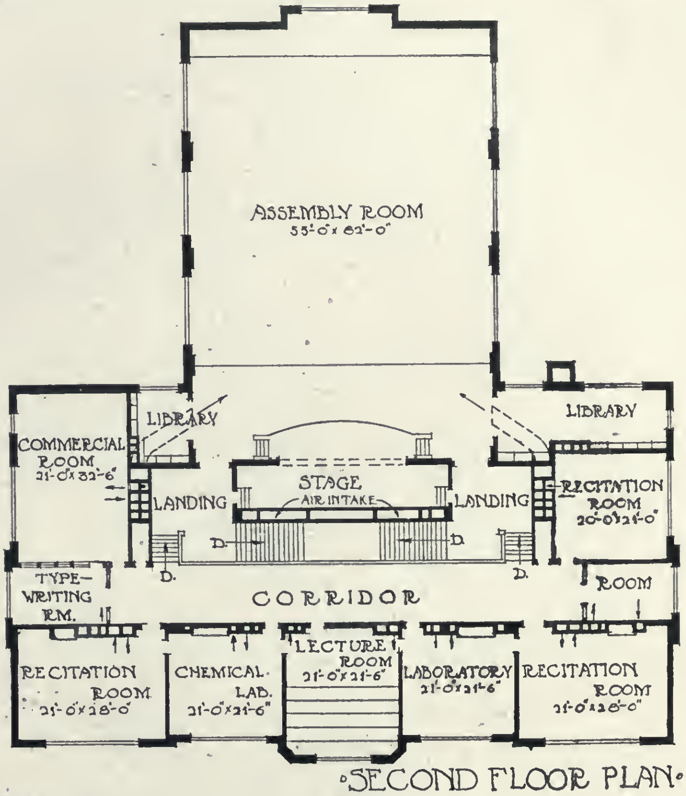
DETAIL OF FRONT ENTRANCE, HIGH SCHOOL, WOODLAND, CAL.

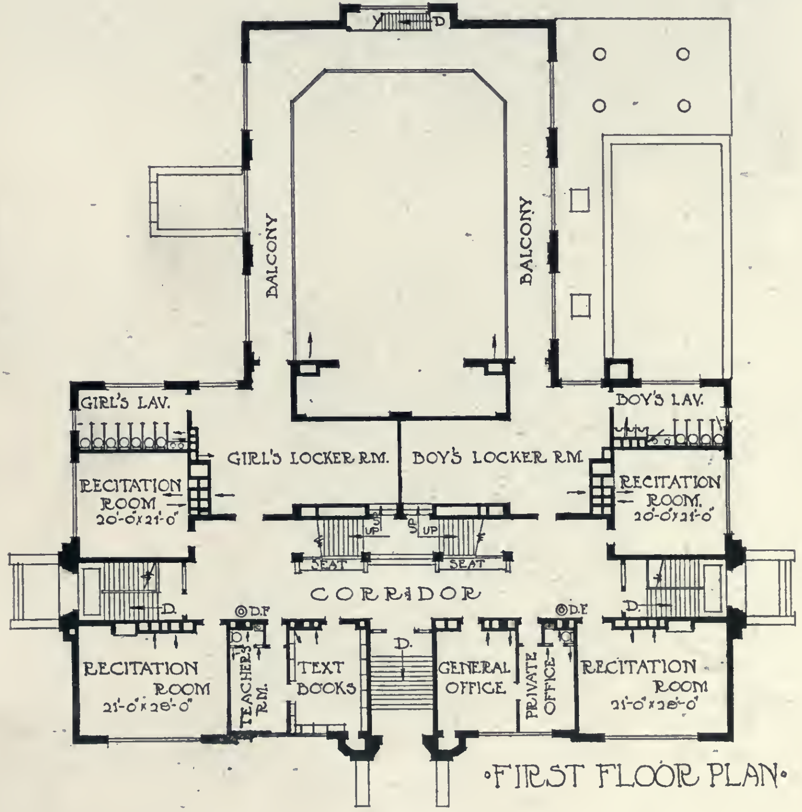

UPPER PART OF STAGE
UPPER PART OF ASSEMBLY HALL
SKY LIGHT
MODELING
SUPPLY ROOM
BOOKS
MECHANICAL DRAWING
HALL
CLASS ROOM
BALCONY
LANTERN ROOM
BIOLOGICAL LAB
HALL
BANKING ROOM
COMMERCIAL ROOM
CORRIDOR
FREEHAND DRAWING
GIRLS REST R'M
PHYS. LABORATORY
DARK ROOM
LECTURE R'M
STORE
CHEMICAL LAB
TYPING ROOM
DICTATION R'M

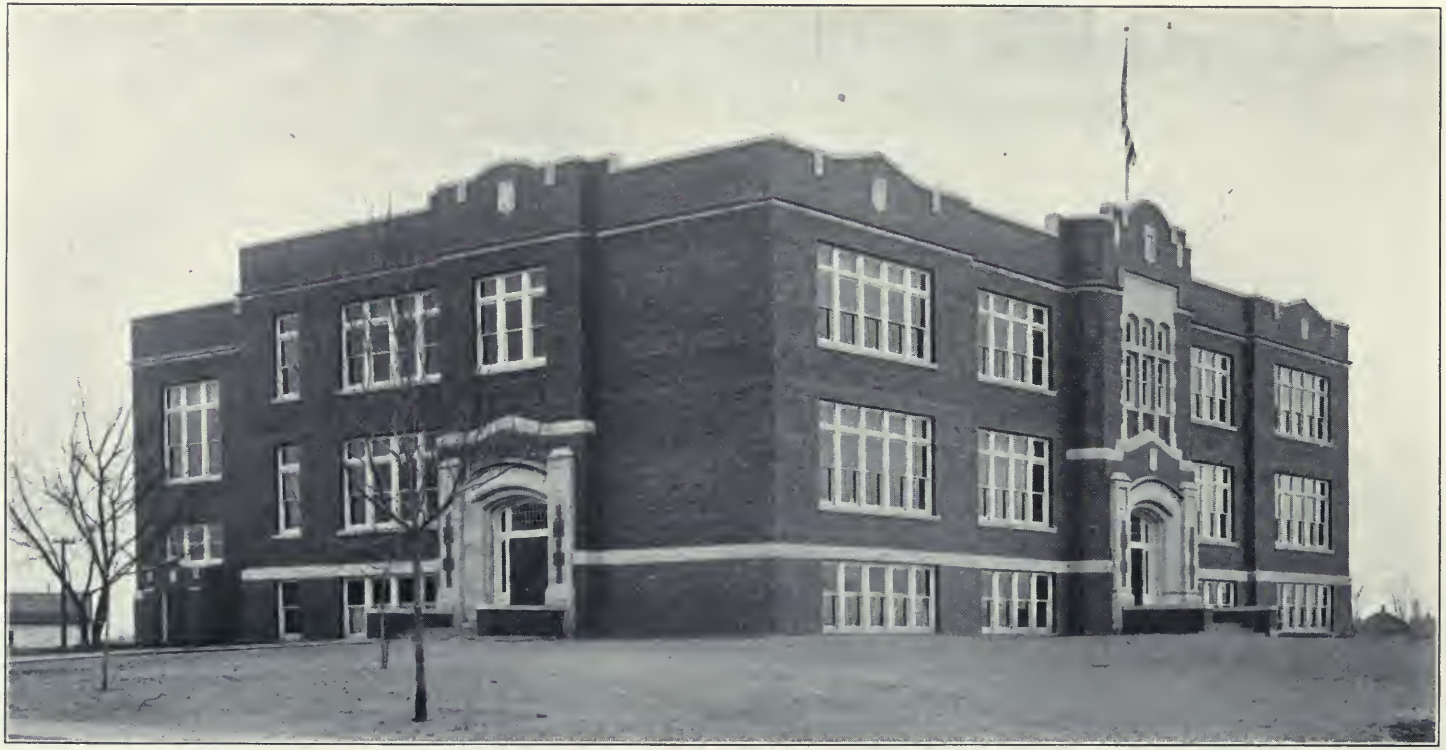
SECOND FLOOR PLAN, HIGH SCHOOL, WOODLAND, CAL.

FLOOR PLANS, HIGH SCHOOL,
LADYSMITH, WIS.

Parkinson & Dockendorff, Architects,
La Crosse, Wis.

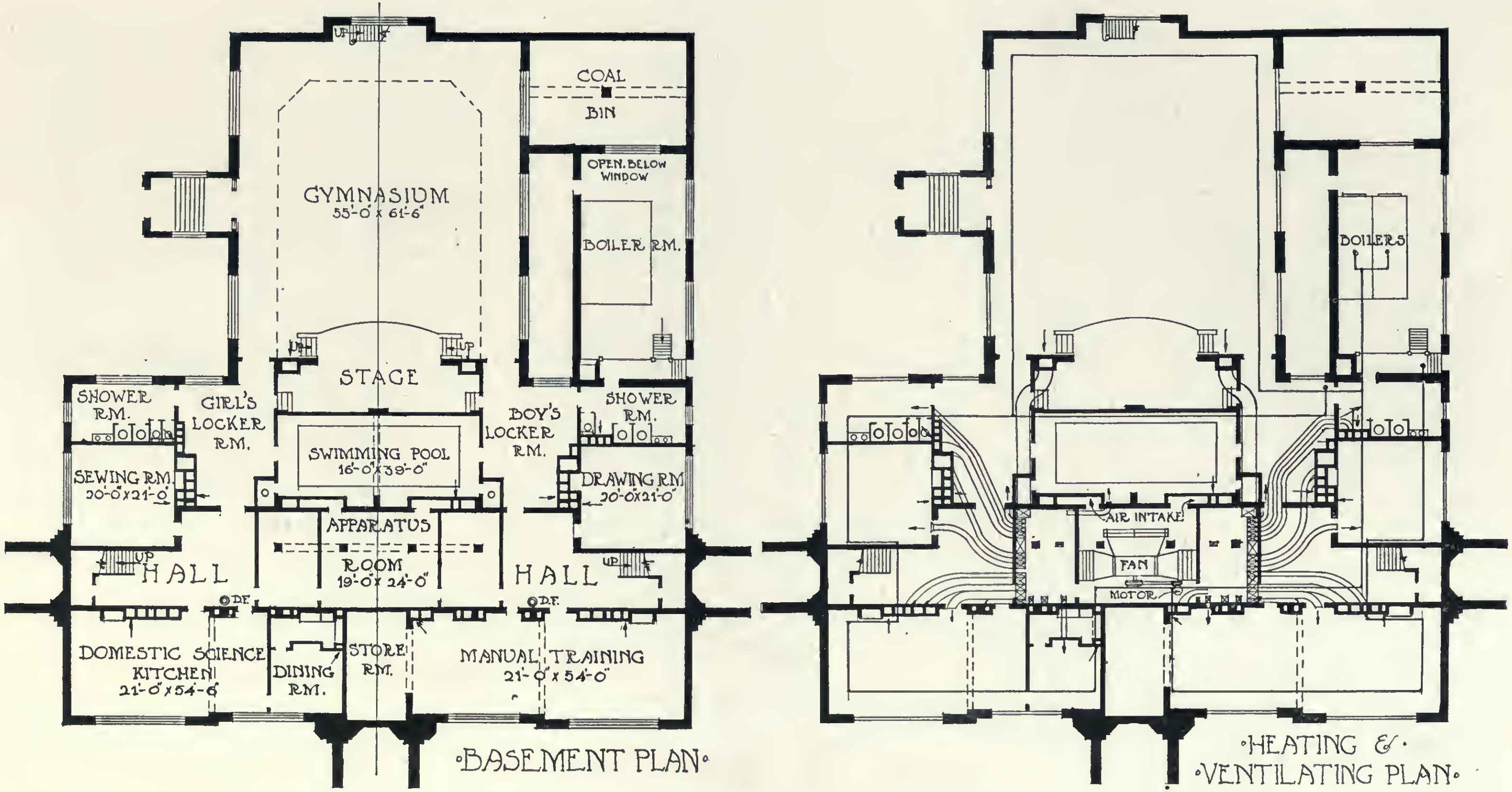

ASSEMBLY ROOM
55'-0" x 82'-0"
LIBRARY
LIBRARY
COMMERCIAL ROOM
21'-0" x 32'-6"
LANDING
STAGE
AIR INTAKE
LANDING
RECITATION ROOM
20'-0" x 21'-0"
D.
D.
D.
D.
TYPE-WRITING RM.
CORRIDOR
ROOM
RECITATION ROOM
21'-0" x 28'-0"
CHEMICAL LAB.
21'-0" x 21'-6"
LECTURE ROOM
21'-0" x 21'-6"
LABORATORY
21'-0" x 21'-6"
RECITATION ROOM
21'-0" x 28'-0"
·SECOND FLOOR PLAN·


D
BALCONY
BALCONY
GIRL'S LAV.
BOY'S LAV.
GIRL'S LOCKER RM.
BOY'S LOCKER RM.
RECITATION ROOM
20'-0" x 21'-0"
RECITATION ROOM
20'-0" x 21'-0"
UP
UP
UP
UP
SEAT
SEAT
CORRIDOR
D.
D.
D.
D.F
D.F
RECITATION ROOM
21'-0" x 28'-0"
TEACHER'S RM.
TEXT BOOKS
GENERAL OFFICE
PRIVATE OFFICE
RECITATION ROOM
21'-0" x 28'-0"
·FIRST FLOOR PLAN·



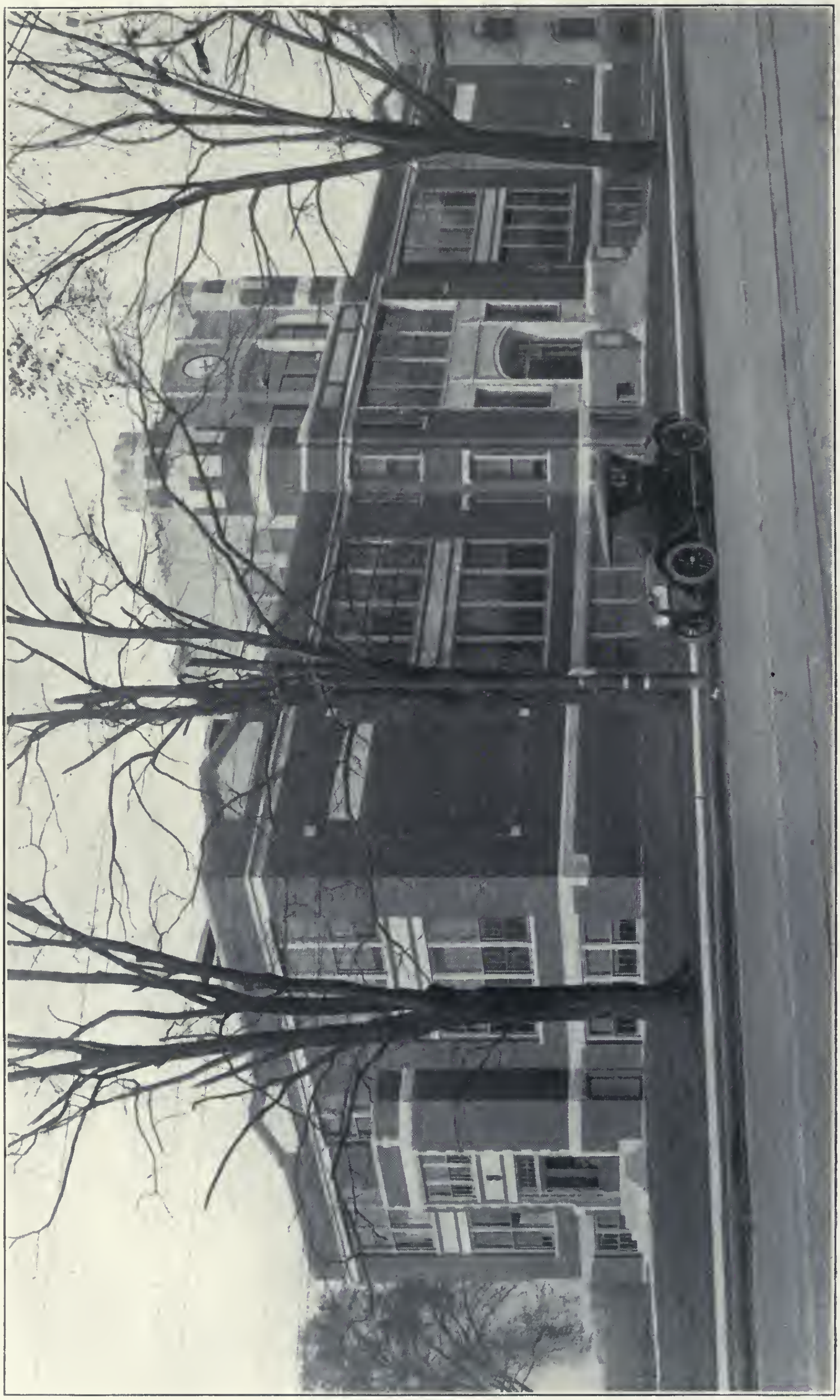
HIGH SCHOOL, LADYSMITH, WIS.

Parkinson & Dockendorff, Architects, La Crosse, Wis.

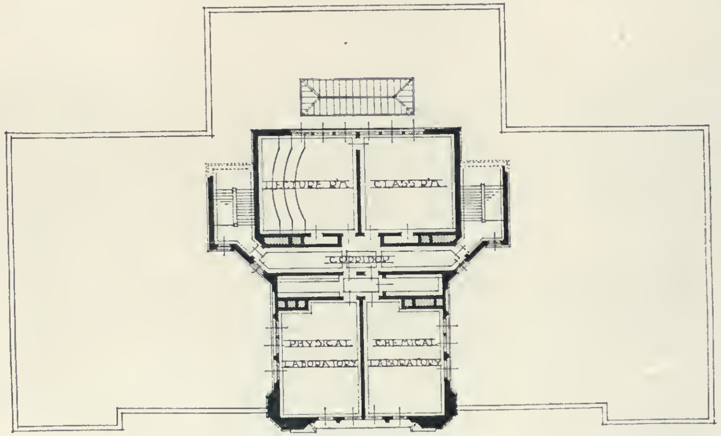

COAL
BIN
OPEN. BELOW WINDOW
GYMNASIUM 55'-0" x 61'-6"
BOILER RM.
UP
STAGE
SHOWER RM.
GIRL'S LOCKER RM.
BOY'S LOCKER RM.
SHOWER RM.
SWIMMING POOL 16'-0" x 39'-0"
SEWING RM. 20'-0" x 21'-0"
DRAWING RM 20'-0" x 21'-0"
APPARATUS ROOM 19'-0" x 24'-0"
HALL
HALL
D.F.
D.F.
DOMESTIC SCIENCE KITCHEN 21'-0" x 54'-6"
DINING RM.
STORE RM.
MANUAL TRAINING 21'-0" x 54'-0"
·BASEMENT PLAN·
DOILERS
AIR INTAKE
FAN
MOTOR
·HEATING & · ·VENTILATING PLAN·

FLOOR PLANS OF THE HIGH SCHOOL, LADYSMITH, WIS.

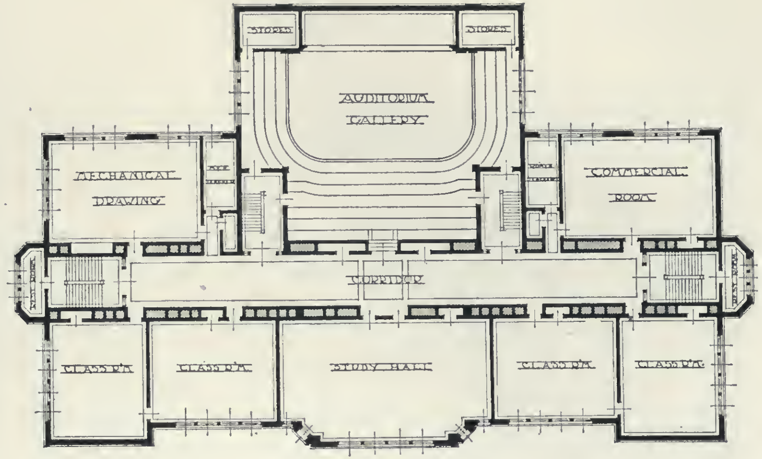
Parkinson & Dockendorff, Architects, La Crosse, Wis.



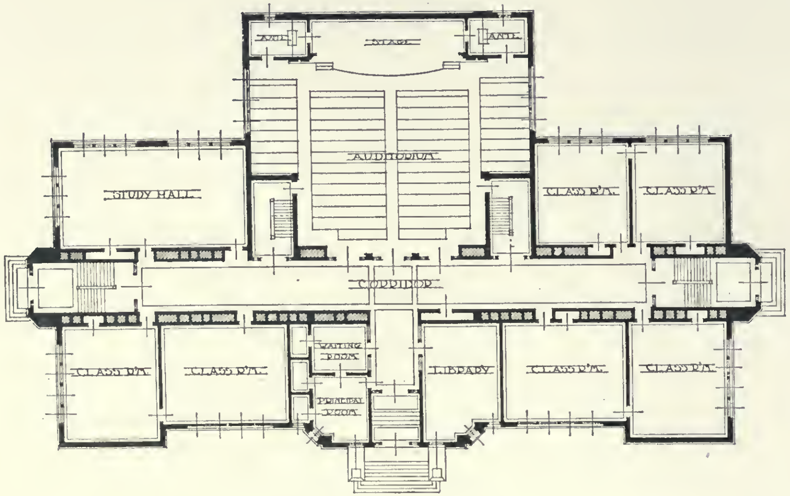
HIGH SCHOOL, WEST SPRINGFIELD, MASS.
Malcom B. Harding, Architect, Westfield, Mass.


LECTURE R'M
CLASS R'M
CORRIDOR
PHYSICAL LABORATORY
CHEMICAL LABORATORY

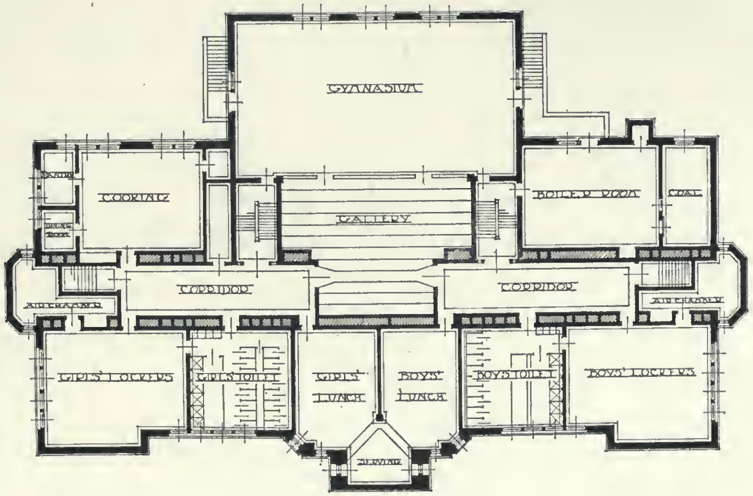
THIRD FLOOR PLAN


STORES
STORES
AUDITORIUM GALLERY
MECHANICAL DRAWING
COMMERCIAL ROOM
CORRIDOR
CLASS R'M
CLASS R'M
STUDY HALL
CLASS R'M
CLASS R'M

SECOND FLOOR PLAN

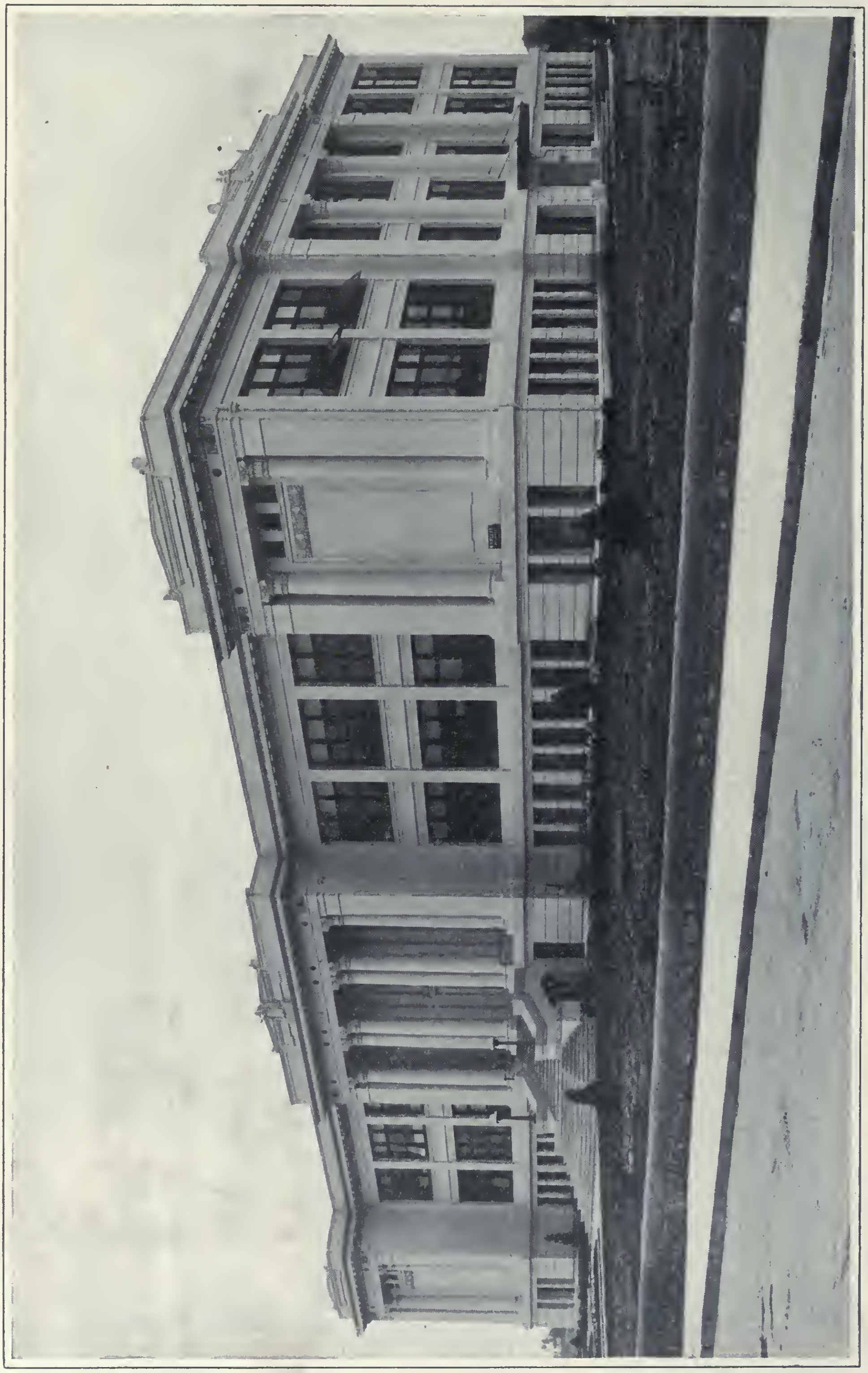

ANTE
STAGE
ANTE
AUDITORIUM
STUDY HALL
CLASS R'M
CLASS R'M
CORRIDOR
CLASS R'M
CLASS R'M
WAITING ROOM
PRINCIPAL ROOM
LIBRARY
CLASS R'M
CLASS R'M

FIRST FLOOR PLAN


GYMNASIUM
COOKING
GALLERY
BOILER ROOM
COAL
CORRIDOR
CORRIDOR
AIR CHAMBER
AIR CHAMBER
GIRLS' LOCKERS
GIRLS' TOILET
GIRLS' LUNCH
BOYS' LUNCH
SERVING
BOYS' TOILET
BOYS' LOCKERS

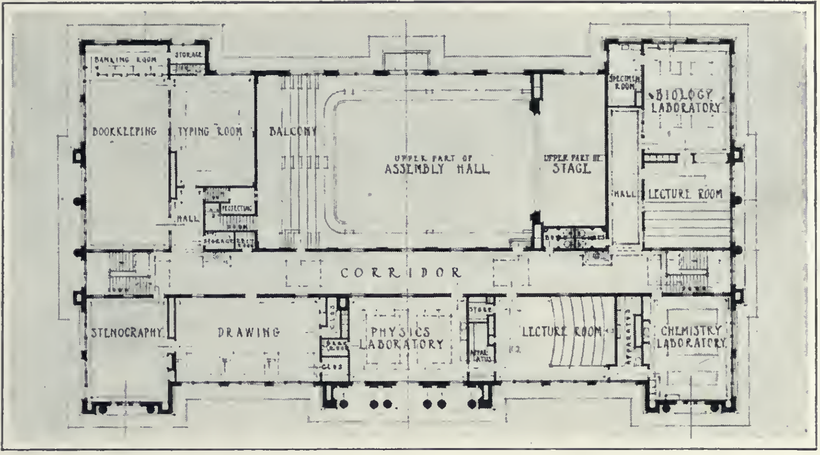
BASEMENT PLAN

FLOOR PLANS, HIGH SCHOOL, WEST SPRINGFIELD, MASS.

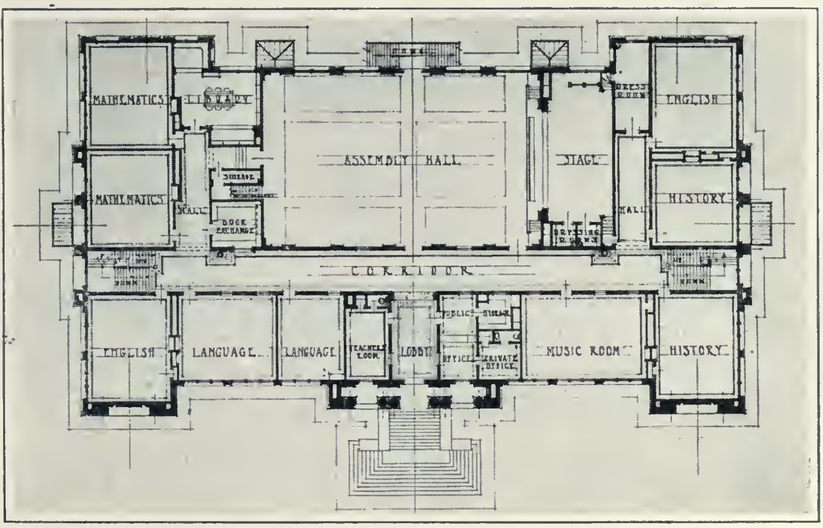


HIGH SCHOOL, SANTA CRUZ, CAL.

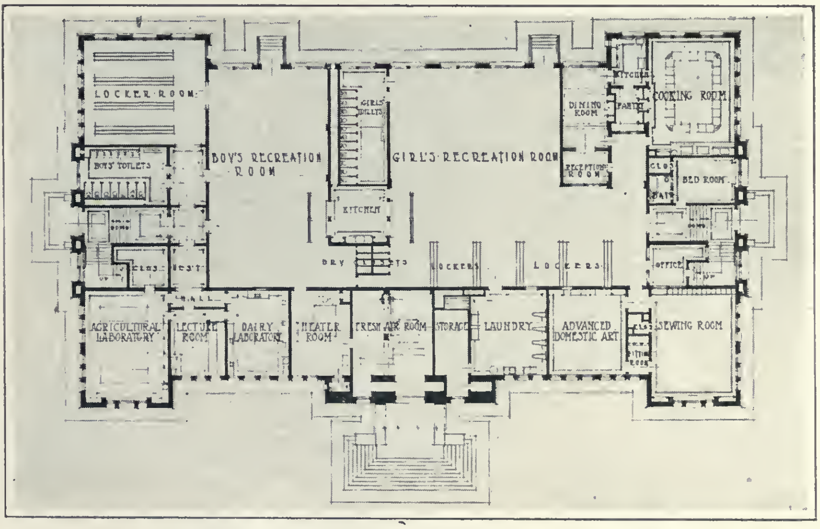
W. H. Weeks, Architect, San Francisco, Cal.


BANKING ROOM
STORAGE
BOOKKEEPING
TYPING ROOM
BALCONY
UPPER PART OF ASSEMBLY HALL
UPPER PART OF STAGE
SPECIMEN ROOM
BIOLOGY LABORATORY
HALL
LECTURE ROOM
CORRIDOR
STENOGRAPHY
DRAWING
PHYSICS LABORATORY
STORE
APPARATUS
LECTURE ROOM
CHEMISTRY LABORATORY

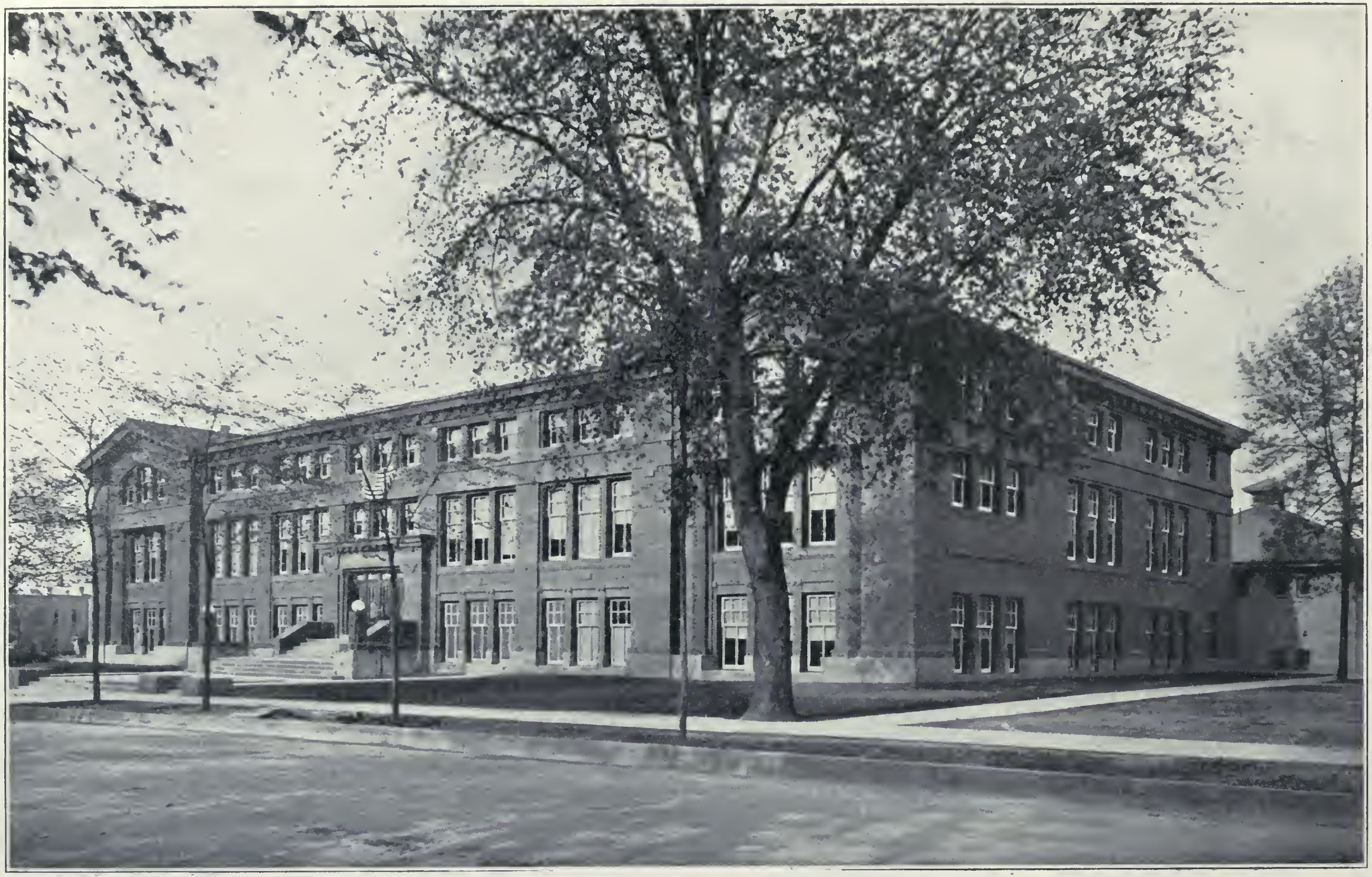
SECOND FLOOR PLAN, HIGH SCHOOL, SANTA CRUZ, CAL.


MATHEMATICS
LIBRARY
MATHEMATICS
HALL
STORAGE
BOOK EXCHANGE
ASSEMBLY HALL
STAGE
DRESSING ROOM
ENGLISH
HISTORY
HALL
DRESSING ROOMS
CORRIDOR
ENGLISH
LANGUAGE
LANGUAGE
TEACHERS ROOM
LOBBY
PUBLIC
STORAGE
OFFICE
PRIVATE OFFICE
MUSIC ROOM
HISTORY

FIRST FLOOR PLAN, HIGH SCHOOL, SANTA CRUZ, CAL.

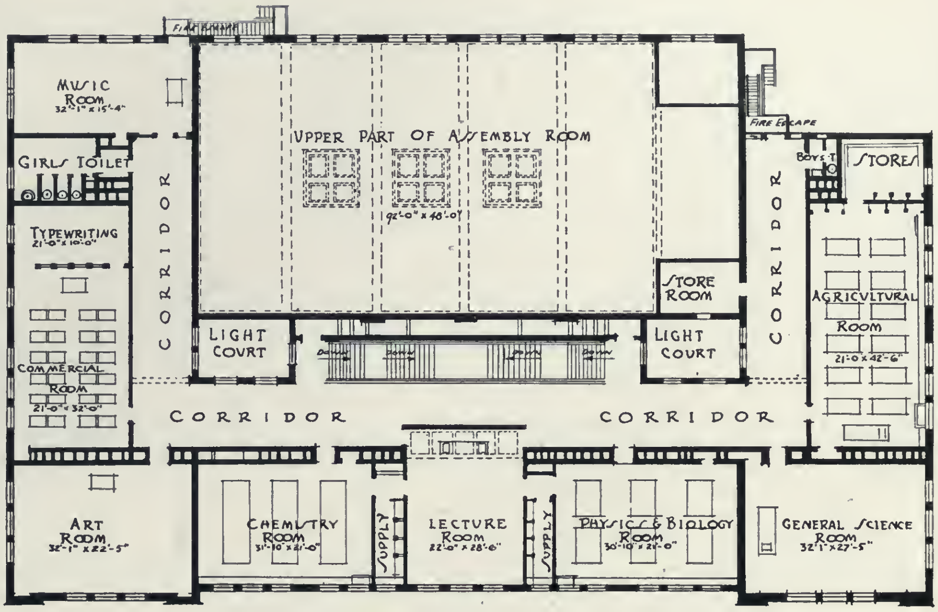

LOCKER ROOM
BOYS' TOILETS
BOY'S RECREATION ROOM
GIRLS' TOILETS
KITCHEN
GIRL'S RECREATION ROOM
DINING ROOM
KITCHEN
PANTRY
COOKING ROOM
RECEPTION ROOM
BED ROOM
BATH
OFFICE
DRY
LOCKERS
LOCKERS
HALL
AGRICULTURAL LABORATORY
LECTURE ROOM
DAIRY LABORATORY
HEATER ROOM
FRESH AIR ROOM
STORAGE
LAUNDRY
ADVANCED DOMESTIC ART
SEWING ROOM

BASEMENT PLAN, HIGH SCHOOL, SANTA CRUZ, CAL.

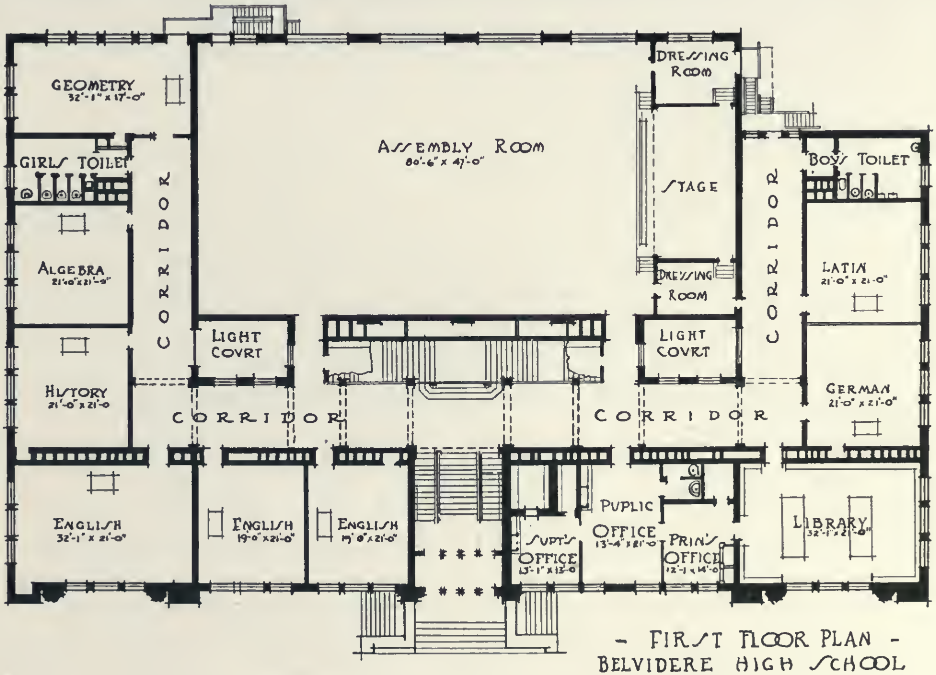


HIGH SCHOOL, BELVIDERE, ILL.

Miller, Fullenwider & Dowling, Architects, Chicago, Ill.

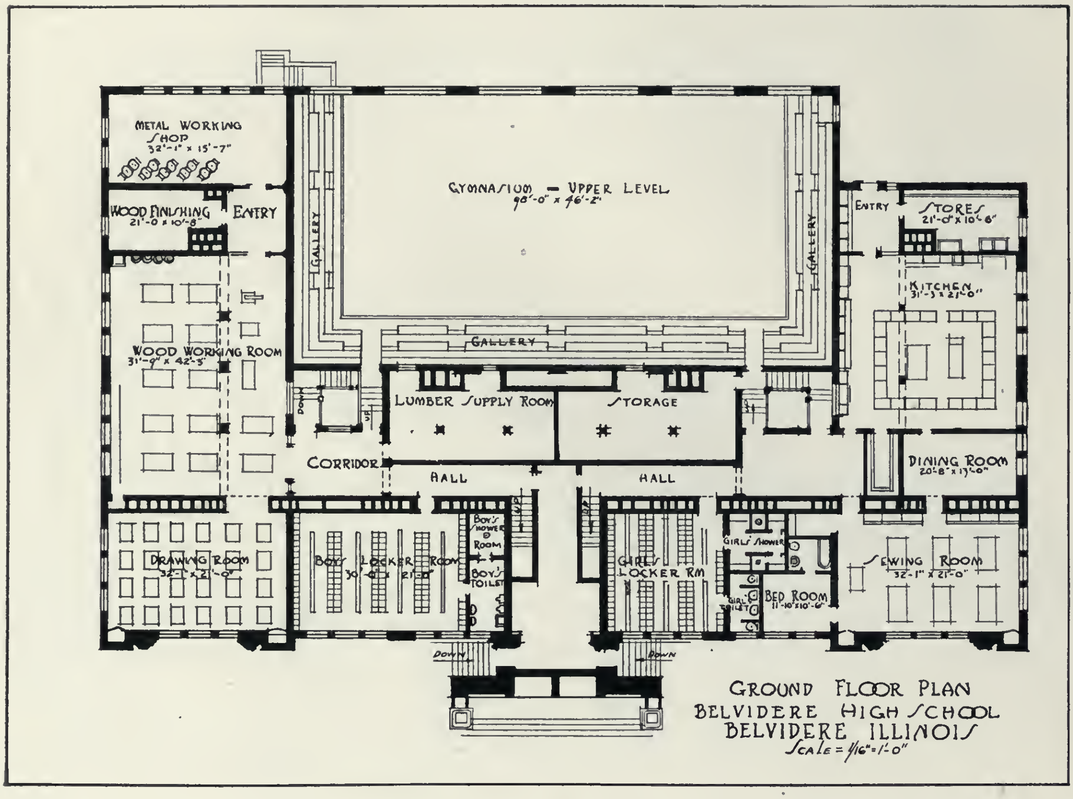

FIRE ESCAPE
MUSIC ROOM
32'-1" x 15'-4"
UPPER PART OF ASSEMBLY ROOM
92'-0" x 48'-0"
GIRLS TOILET
CORRIDOR
TYPEWRITING
21'-0" x 10'-0"
COMMERCIAL ROOM
21'-0" x 32'-0"
LIGHT COURT
DOWN
DOWN
DOWN
DOWN
LIGHT COURT
STORE ROOM
FIRE ESCAPE
BOYS T
STORES
CORRIDOR
AGRICULTURAL ROOM
21'-0 x 42'-6"
CORRIDOR
CORRIDOR
ART ROOM
32'-1" x 22'-5"
CHEMISTRY ROOM
31'-10" x 21'-0"
SUPPLY
LECTURE ROOM
22'-0" x 28'-6"
SUPPLY
PHYSICS & BIOLOGY ROOM
30'-10" x 21'-0"
GENERAL SCIENCE ROOM
32'1" x 27'-5"

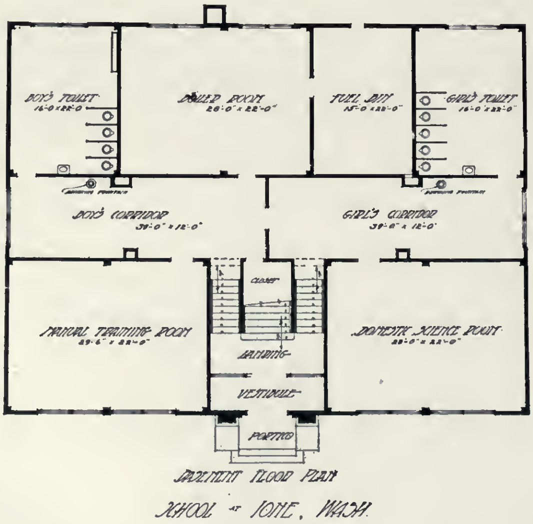
= SECOND FLOOR PLAN =
BELVIDERE HIGH SCHOOL
BELVIDERE ILLINOIS
SCALE 1/16" = 1'-0"


GEOMETRY
32'-1" x 17'-0"
ASSEMBLY ROOM
80'-6" x 47'-0"
DRESSING ROOM
STAGE
DRESSING ROOM
GIRLS TOILET
CORRIDOR
ALGEBRA
21'-0" x 21'-0"
HISTORY
21'-0" x 21'-0
LIGHT COVRT
LIGHT COVRT
BOYS TOILET
CORRIDOR
LATIN
21'-0" x 21'-0"
GERMAN
21'-0" x 21'-0"
CORRIDOR
CORRIDOR
ENGLISH
32'-1" x 21'-0"
ENGLISH
19'-0" x 21'-0"
ENGLISH
19'-0" x 21'-0"
SUPT'S OFFICE
13'-1" x 13'-0
PUPLIC OFFICE
13'-4" x 21'-0"
PRIN'S OFFICE
12'-1 x 14'-0
LIBRARY
32'-1" x 21'-0"

- FIRST FLOOR PLAN -
BELVIDERE HIGH SCHOOL
BELVIDERE ILLINOIS
SCALE 1/16" = 1'-0"

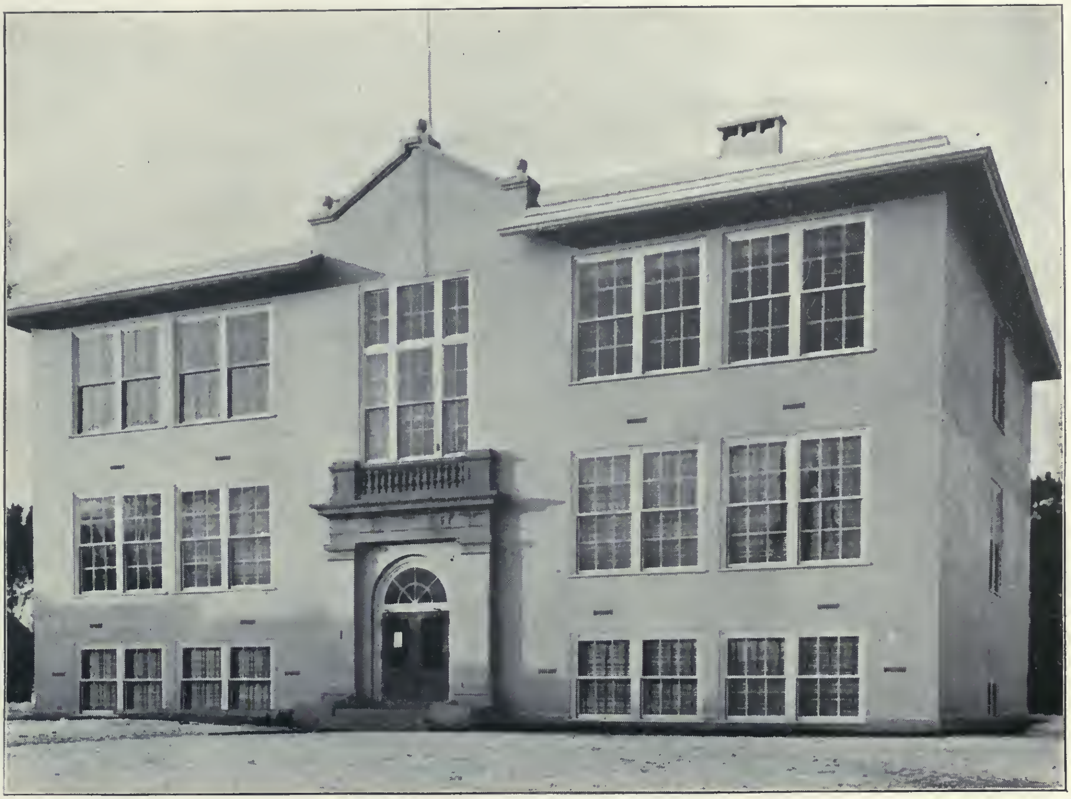
MILLER-FULLENWIDER & DOWLING - ARCHITECTS - 6X6. MICH. AVE. CHICAGO-ILLINOIS-


METAL WORKING SHOP
32'-1" x 15'-7"
WOOD FINISHING
21'-0 x 10'-8"
ENTRY
WOOD WORKING ROOM
31'-9" x 42'-5"
GYMNASIUM – UPPER LEVEL
98'-0" x 46'-2"
GALLERY
GALLERY
GALLERY
LUMBER SUPPLY ROOM
STORAGE
CORRIDOR
HALL
HALL
DOWN
UP
ENTRY
STORES
21'-0" x 10'-6"
KITCHEN
31'-3" x 21'-0"
DINING ROOM
20'-8" x 17'-0"
DRAWING ROOM
32'-1" x 21'-0"
BOYS' LOCKER ROOM
30'-0" x 21'-0"
BOYS' SHOWER ROOM
BOYS' TOILET
GIRLS' LOCKER RM
GIRLS' SHOWER
GIRLS' TOILET
BED ROOM
11'-10"x10'-6"
SEWING ROOM
32'-1" x 21'-0"
DOWN
DOWN
GROUND FLOOR PLAN
BELVIDERE HIGH SCHOOL
BELVIDERE ILLINOIS
SCALE = 1/16"=1'-0"


BOY'S TOILET
16-0x22-0
BOILER ROOM
26'-0" x 22'-0"
FUEL BIN
15-0 x 22-0"
GIRL'S TOILET
16-0 x 22-0
BOY'S CORRIDOR
39'-0" x 12'-0"
GIRL'S CORRIDOR
39'-0" x 12'-0"
CLOSET
MANUAL TRAINING ROOM
29-6" x 22'-0"
DOMESTIC SCIENCE ROOM
28'-0" x 22'-0"
LANDING
VESTIBULE
PORTICO
BASEMENT FLOOR PLAN
SCHOOL AT IONE, WASH.

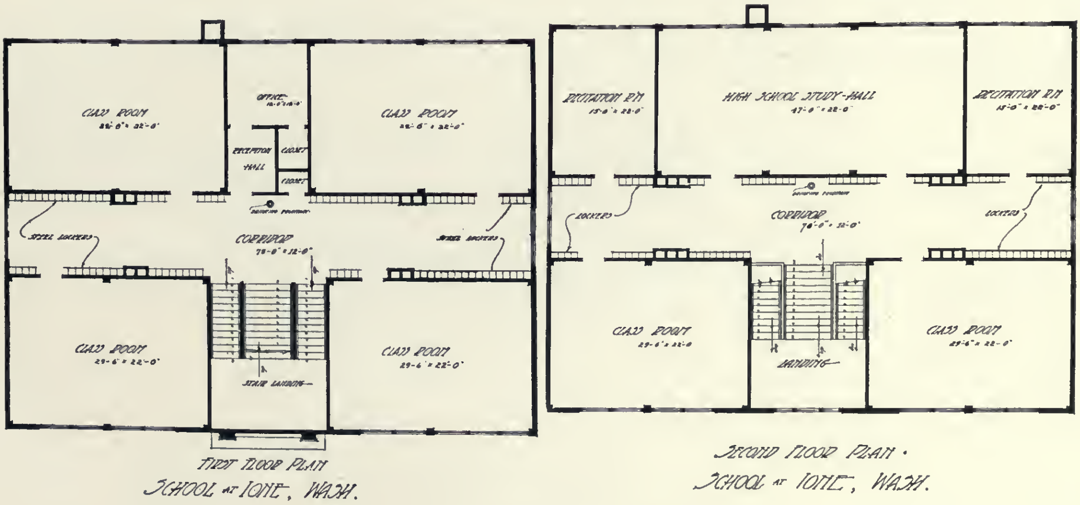
BASEMENT PLAN, HIGH SCHOOL, IONE, WASH.

Keith & Whitehouse, Architects, Spokane, Wash.

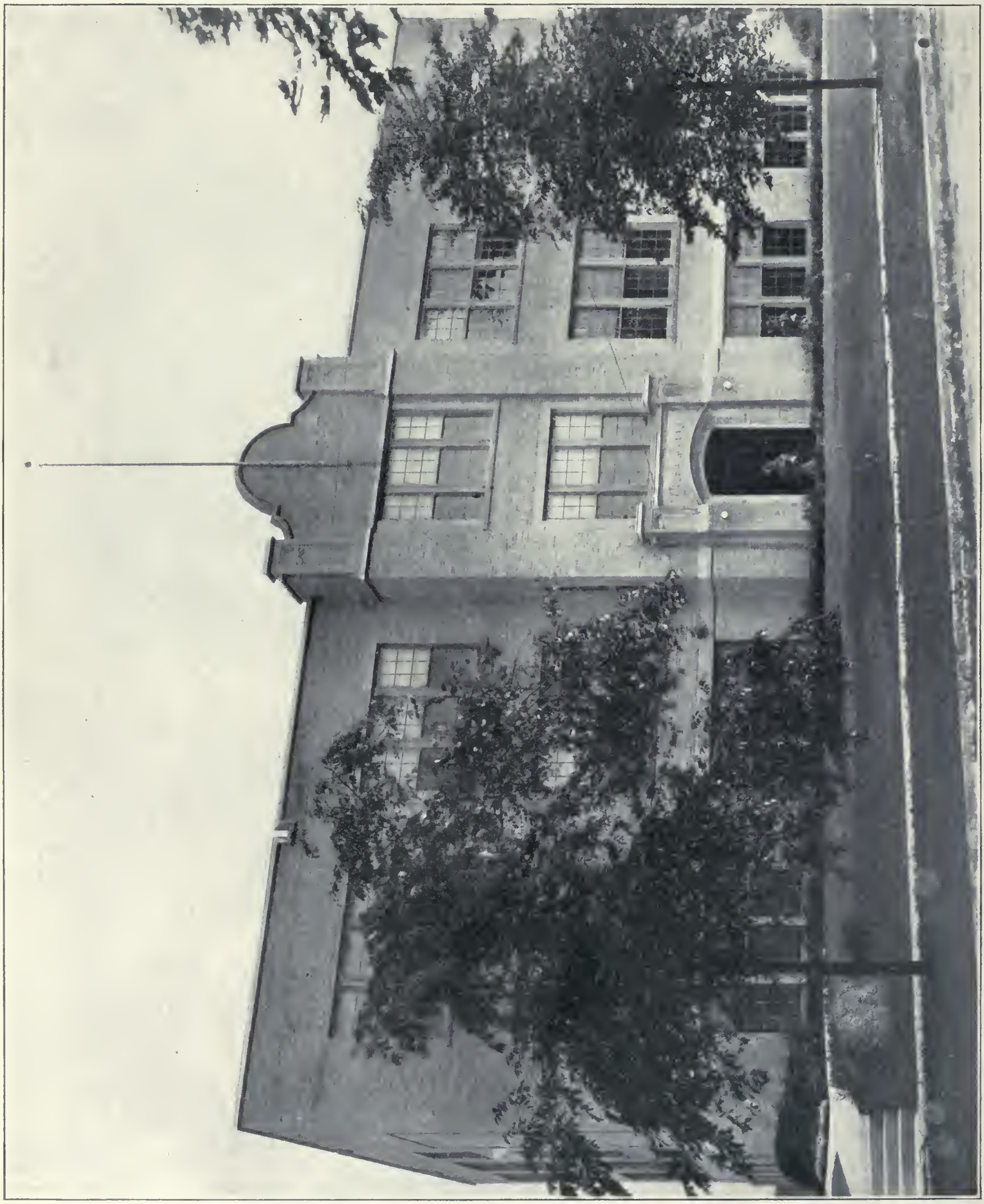


HIGH SCHOOL, IONE, WASH.

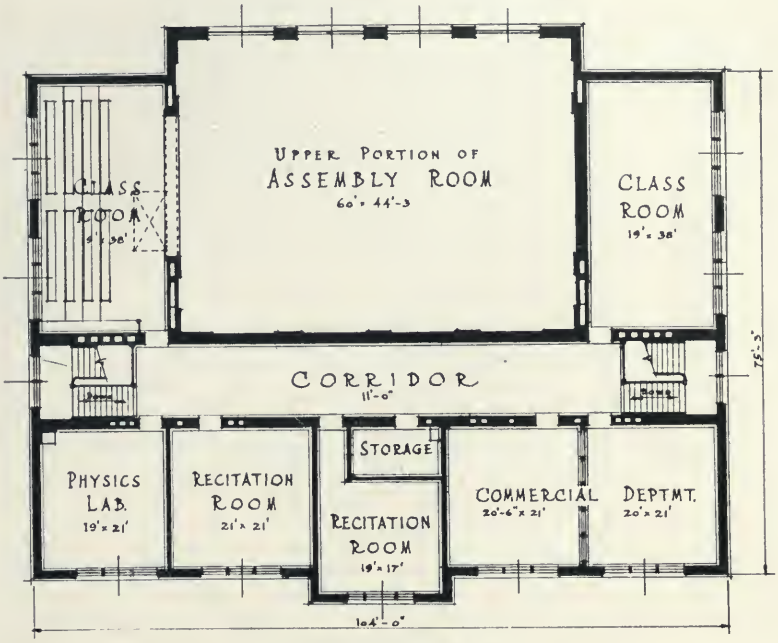
Keith & Whitehouse, Architects, Spokane, Wash.


CLASS ROOM
29'-6" x 22'-0"
OFFICE
12'-0" x 10'-0"
CLASS ROOM
29'-6" x 22'-0"
RECEPTION HALL
CLOSET
CLOSET
DRINKING FOUNTAIN
STEEL LOCKERS
CORRIDOR
78'-0" x 12'-0"
STEEL LOCKERS
CLASS ROOM
29'-6" x 22'-0"
CLASS ROOM
29'-6" x 22'-0"
STAIR LANDING
FIRST FLOOR PLAN
SCHOOL AT IONE, WASH.
RECITATION RM
15'-0" x 22'-0"
HIGH SCHOOL STUDY-HALL
47'-0" x 22'-0"
RECITATION RM
15'-0" x 22'-0"
DRINKING FOUNTAIN
LOCKERS
CORRIDOR
78'-0" x 12'-0"
LOCKERS
CLASS ROOM
29'-6" x 22'-0"
CLASS ROOM
29'-6" x 22'-0"
LANDING
SECOND FLOOR PLAN
SCHOOL AT IONE, WASH.

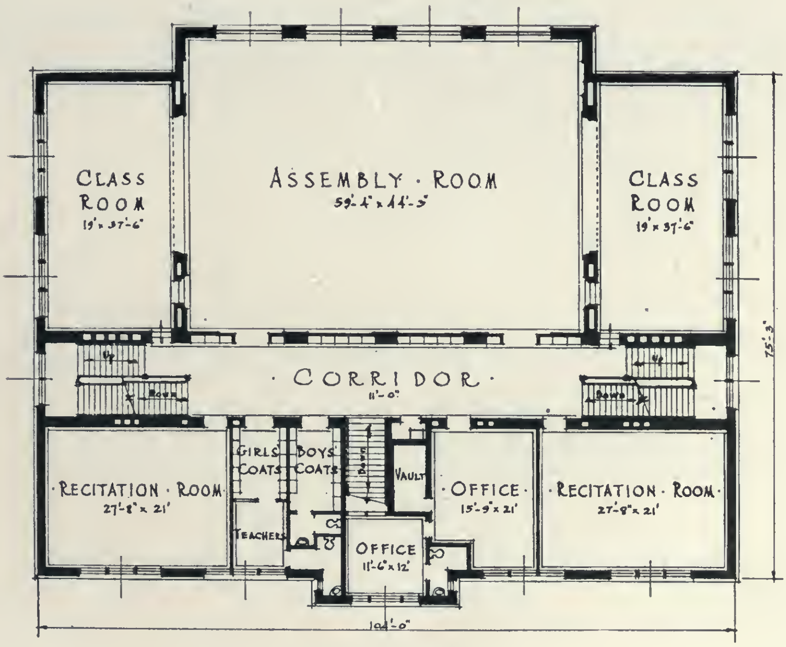
FLOOR PLANS, HIGH SCHOOL, IONE, WASH.



HIGH SCHOOL, LAKE MILLS, WIS.
James R. Law, Architect, Madison, Wis.


UPPER PORTION OF
ASSEMBLY ROOM
60' x 44'-3
CLASS ROOM
19' x 38'
CLASS ROOM
19' x 38'
CORRIDOR
11'-0"
DOWN
DOWN
75'-5"
STORAGE
PHYSICS LAB.
19' x 21'
RECITATION ROOM
21' x 21'
RECITATION ROOM
19' x 17'
COMMERCIAL
20'-6" x 21'
DEPTMT.
20' x 21'
104'-0"

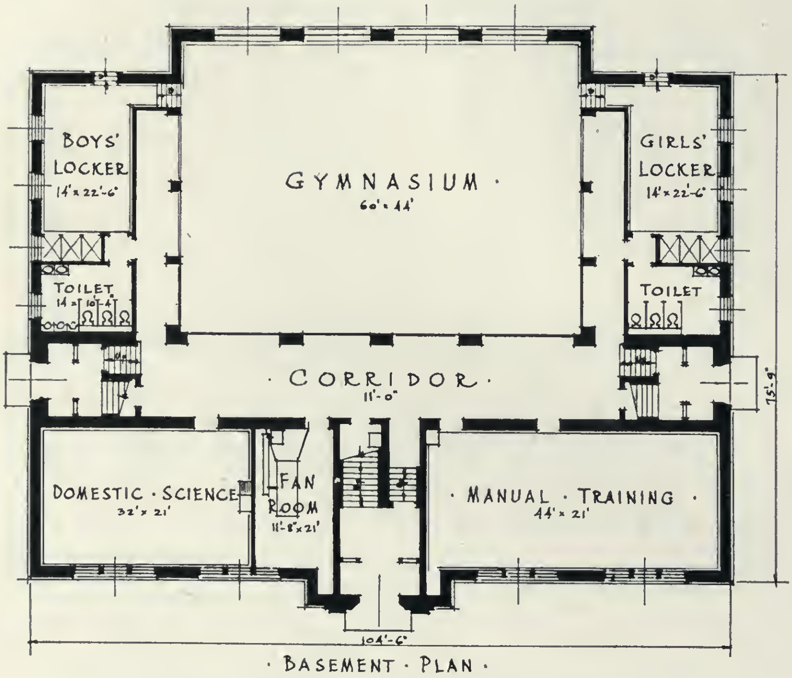
· SECOND · FLOOR · PLAN


ASSEMBLY · ROOM
59'-4" x 44'-5"
CLASS ROOM
19' x 37'-6"
CLASS ROOM
19' x 37'-6"
· CORRIDOR ·
11'-0"
UP
DOWN
UP
DOWN
75'-3"
· RECITATION · ROOM
27'-8" x 21'
GIRLS COATS
BOYS COATS
TEACHERS
VAULT
OFFICE
11'-6" x 12'
· OFFICE ·
15'-9" x 21'
· RECITATION · ROOM ·
27'-8" x 21'
104'-0"

· FIRST · FLOOR · PLAN ·

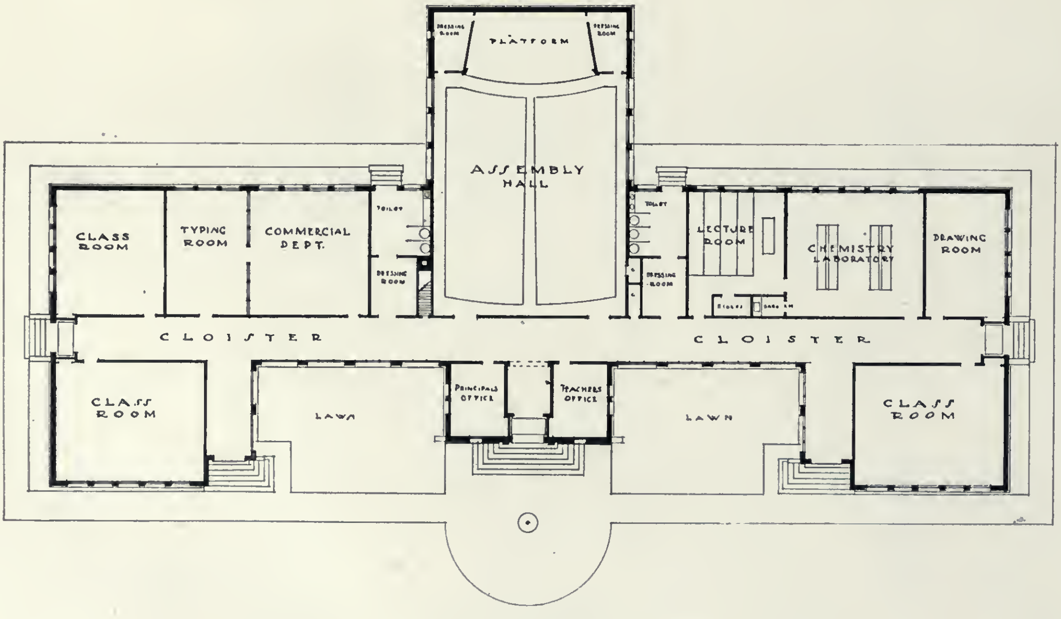
FLOOR PLANS, HIGH SCHOOL, LAKE MILLS, WIS.

James R. Law, Architect, Madison, Wis.


BOYS' LOCKER
14'x22'-6"
TOILET
14x 10'-4"
GYMNASIUM
60'x44'
GIRLS' LOCKER
14'x22'-6"
TOILET
CORRIDOR
11'-0"
75'-9"
DOMESTIC SCIENCE
32'x21'
FAN ROOM
11'-8"x21'
MANUAL TRAINING
44'x21'
104'-6"
BASEMENT PLAN

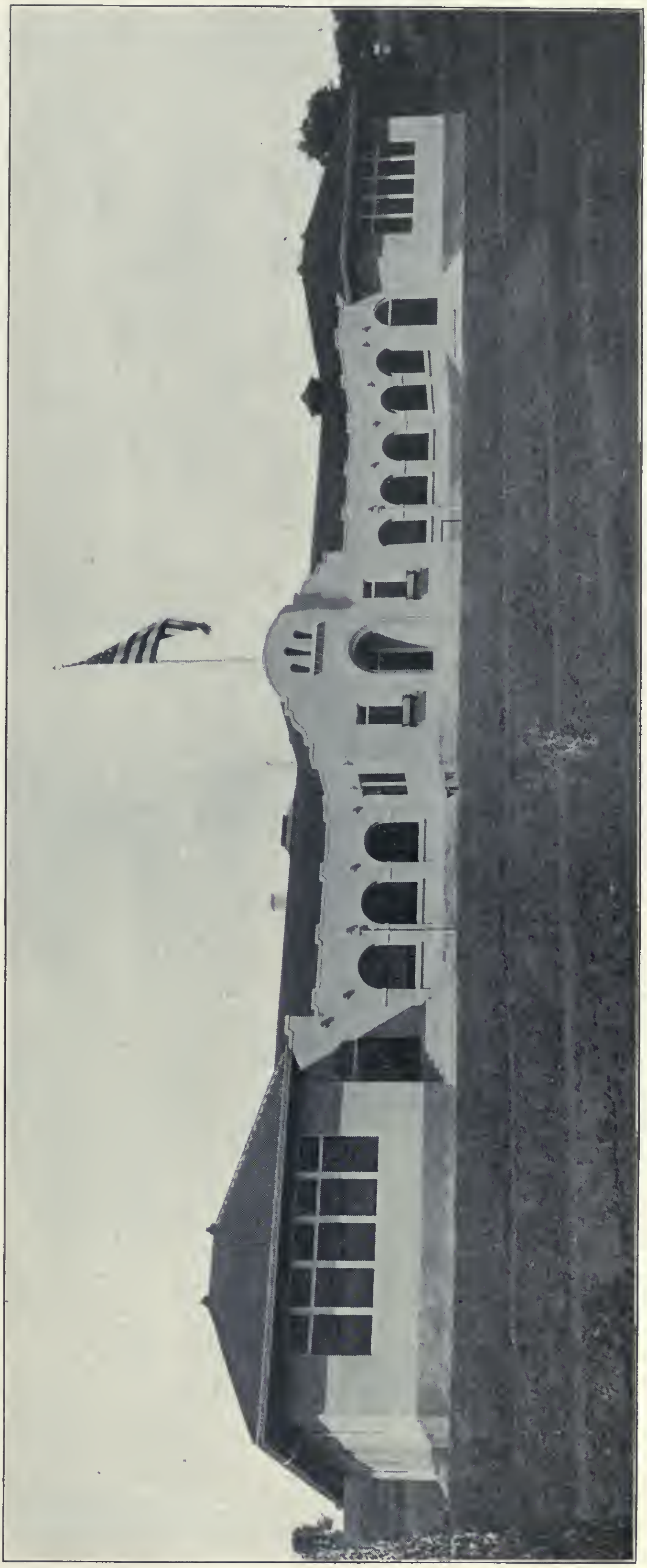
BASEMENT PLAN, HIGH SCHOOL, LAKE MILLS, WIS.

James R. Law, Architect, Madison, Wis.


DRESSING ROOM
PLATFORM
DRESSING ROOM
ASSEMBLY HALL
CLASS ROOM
TYPING ROOM
COMMERCIAL DEPT.
TOILET
DRESSING ROOM
TOILET
DRESSING ROOM
LECTURE ROOM
CHEMISTRY LABORATORY
DRAWING ROOM
CLOISTER
CLOISTER
CLASS ROOM
LAWN
PRINCIPALS OFFICE
TEACHERS OFFICE
LAWN
CLASS ROOM

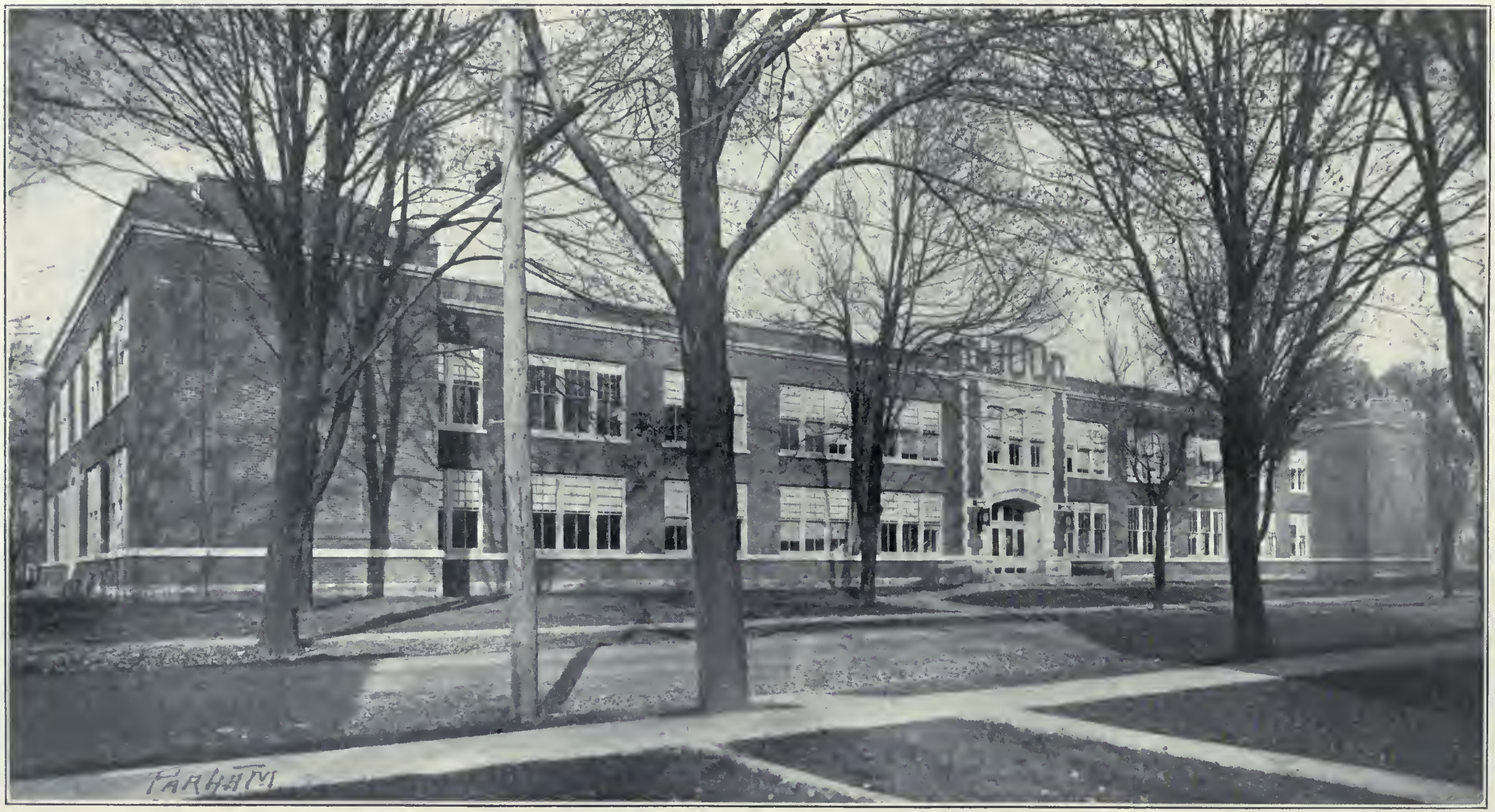
FLOOR PLAN, UNION HIGH SCHOOL, JACKSON, CAL.

Walter Parker & Co., Architects, San Francisco, Cal.



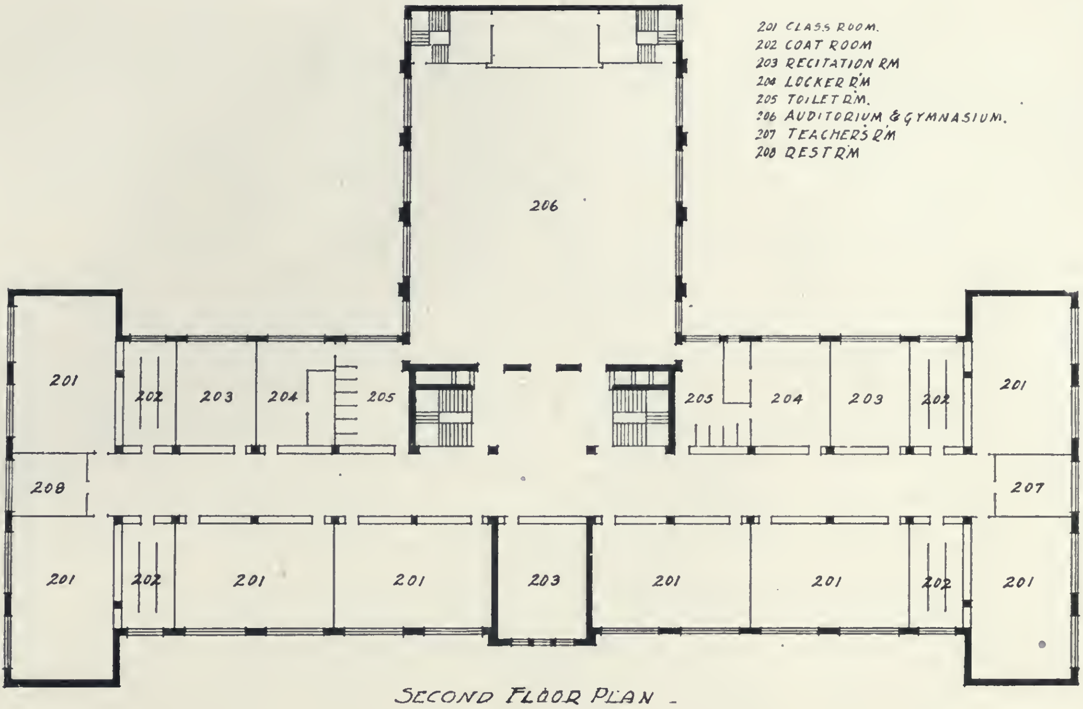
UNION HIGH SCHOOL, JACKSON, CAL.

Walter Parker & Co., Architects, San Francisco, Cal.

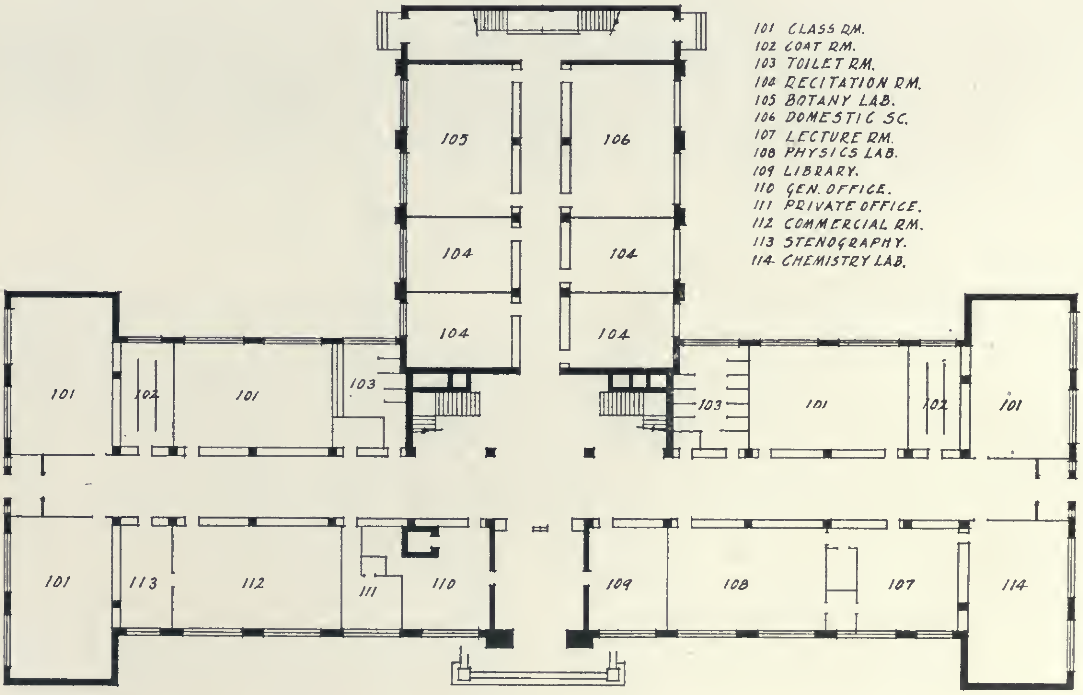


HIGH SCHOOL, STURGIS, MICH.

Robinson & Campau, Architects, Grand Rapids, Mich.


201 CLASS ROOM.
202 COAT ROOM
203 RECITATION RM
204 LOCKER R'M
205 TOILET R'M.
206 AUDITORIUM & GYMNASIUM.
207 TEACHER'S R'M
208 REST R'M
206
201
202
203
204
205
208
207

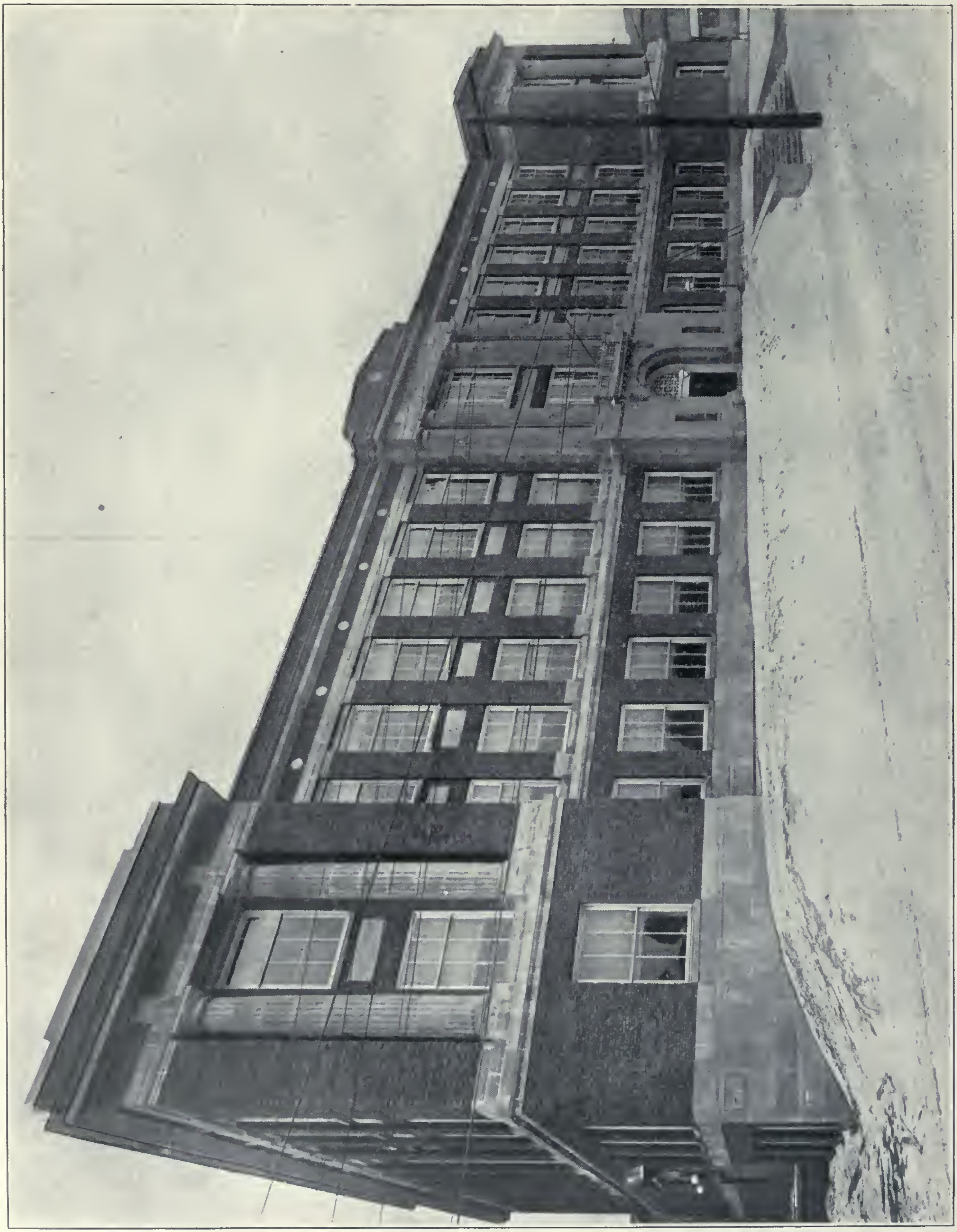
SECOND FLOOR PLAN


101 CLASS RM.
102 COAT RM.
103 TOILET RM.
104 RECITATION RM.
105 BOTANY LAB.
106 DOMESTIC SC.
107 LECTURE RM.
108 PHYSICS LAB.
109 LIBRARY.
110 GEN. OFFICE.
111 PRIVATE OFFICE.
112 COMMERCIAL RM.
113 STENOGRAPHY.
114 CHEMISTRY LAB.

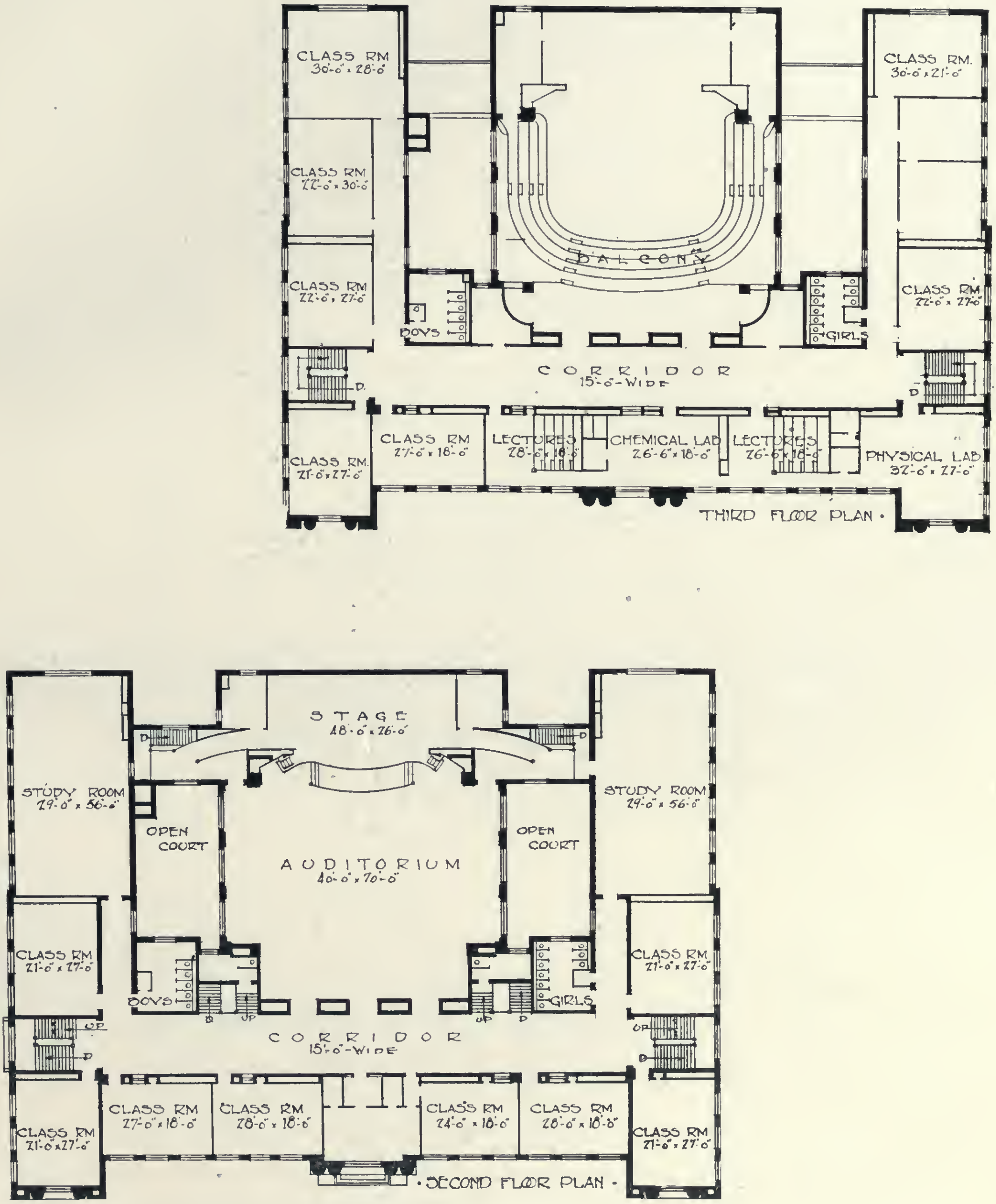
FIRST FLOOR PLAN

FLOOR PLANS, HIGH SCHOOL, STURGIS, MICH.

Robinson & Campau, Architects, Grand Rapids, Mich.

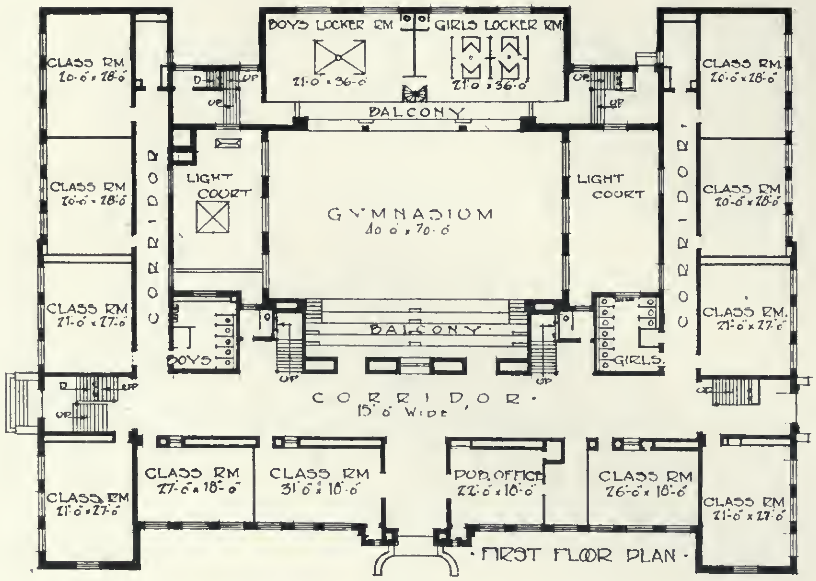


HIGH SCHOOL, CONNELLSVILLE, PA.
W. G. Eckles, Architect, New Castle, Pa.


CLASS RM 30'-0" x 28'-0"
CLASS RM 22'-0" x 30'-0"
CLASS RM 22'-0" x 27'-0"
BOYS
BALCONY
GIRLS
CLASS RM. 30'-0" x 21'-0"
CLASS RM 22'-0" x 27'-0"
CORRIDOR 15'-0"-WIDE
D
D
CLASS RM. 21'-0" x 27'-0"
CLASS RM 27'-0" x 18'-0"
LECTURES 28'-0" x 18'-0"
CHEMICAL LAB 26'-6" x 18'-0"
LECTURES 26'-6" x 18'-0"
PHYSICAL LAB 32'-0" x 27'-0"
THIRD FLOOR PLAN
STAGE 18'-0" x 26'-0"
D
D
STUDY ROOM 29'-0" x 56'-0"
OPEN COURT
AUDITORIUM 40'-0" x 70'-0"
OPEN COURT
STUDY ROOM 29'-0" x 56'-0"
CLASS RM 21'-0" x 27'-0"
BOYS
D
UP
UP
D
GIRLS
CLASS RM 21'-0" x 27'-0"
UP
D
CORRIDOR 15'-0"-WIDE
UP
D
CLASS RM 21'-0" x 27'-0"
CLASS RM 27'-0" x 18'-0"
CLASS RM 28'-0" x 18'-0"
CLASS RM 24'-0" x 18'-0"
CLASS RM 28'-0" x 18'-0"
CLASS RM 21'-0" x 27'-0"
SECOND FLOOR PLAN

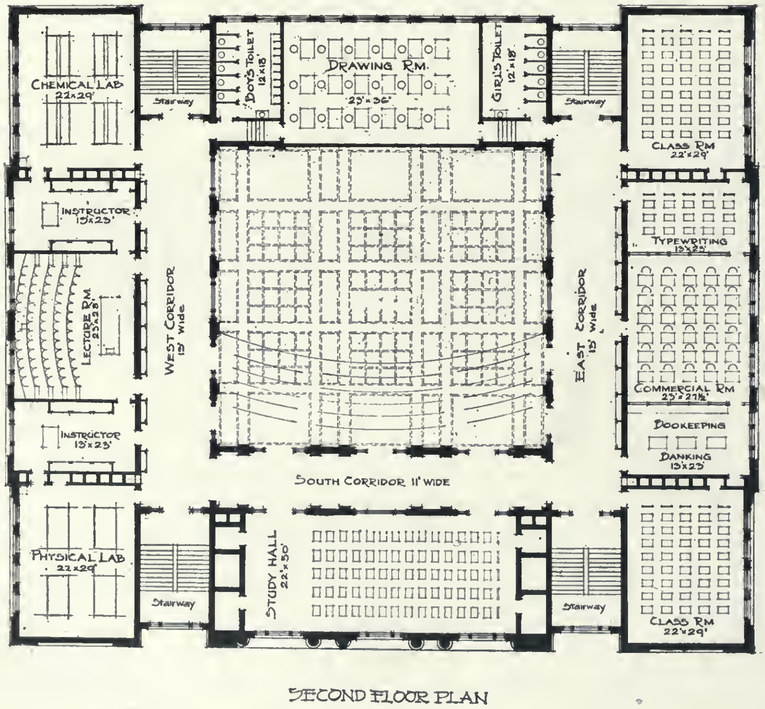
FLOOR PLANS, HIGH SCHOOL, CONNELLSVILLE, PA.

W. G. Eckles, Architect, New Castle, Pa.


BOYS LOCKER RM
21-0" x 36-0"
GIRLS LOCKER RM
21-0" x 36-0"
BALCONY
CLASS RM
20-0" x 28-0"
CLASS RM
20-0" x 28-0"
CLASS RM
21-0" x 27-0"
CLASS RM
21-0" x 27-0"
LIGHT COURT
GYMNASIUM
40-0" x 70-0"
LIGHT COURT
CORRIDOR
CORRIDOR
CLASS RM.
20-0" x 28-0"
CLASS RM
20-0" x 28-0"
CLASS RM.
21-0" x 27-0"
BOYS
GIRLS
BALCONY
UP
UP
D
CORRIDOR
15'-0" WIDE
CLASS RM
27-6" x 18-0"
CLASS RM
31-0" x 18-0"
PUP. OFFICE
22-0" x 18-0"
CLASS RM
26-0" x 18-0"
CLASS RM
21-0" x 27-0"
FIRST FLOOR PLAN

FIRST FLOOR PLAN, HIGH SCHOOL, CONNELLSVILLE, PA.

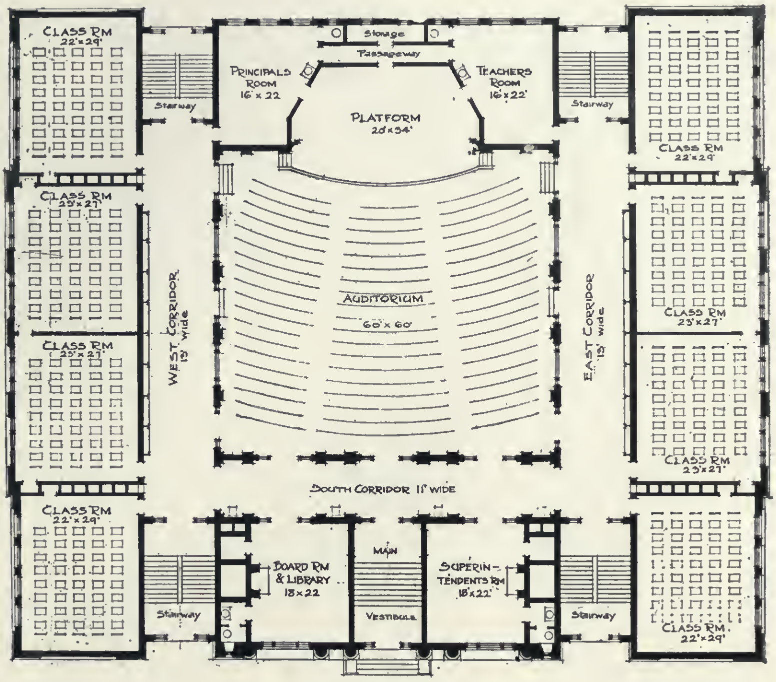
W. G. Eckles, Architect, New Castle, Pa.


CHEMICAL LAB
22x29'
Stairway
BOYS TOILET
12x18'
DRAWING RM.
25'x36'
GIRLS TOILET
12'x18'
Stairway
CLASS RM
22'x29'
INSTRUCTOR
13'x23'
LECTURE RM.
23x28'
WEST CORRIDOR
15' wide
EAST CORRIDOR
15' wide
TYPEWRITING
13'x23'
COMMERCIAL RM
23'x27½'
BOOKKEEPING
BANKING
13'x23'
INSTRUCTOR
13'x23'
SOUTH CORRIDOR 11' WIDE
PHYSICAL LAB
22x29'
Stairway
STUDY HALL
22'x50'
Stairway
CLASS RM
22'x29'
SECOND FLOOR PLAN

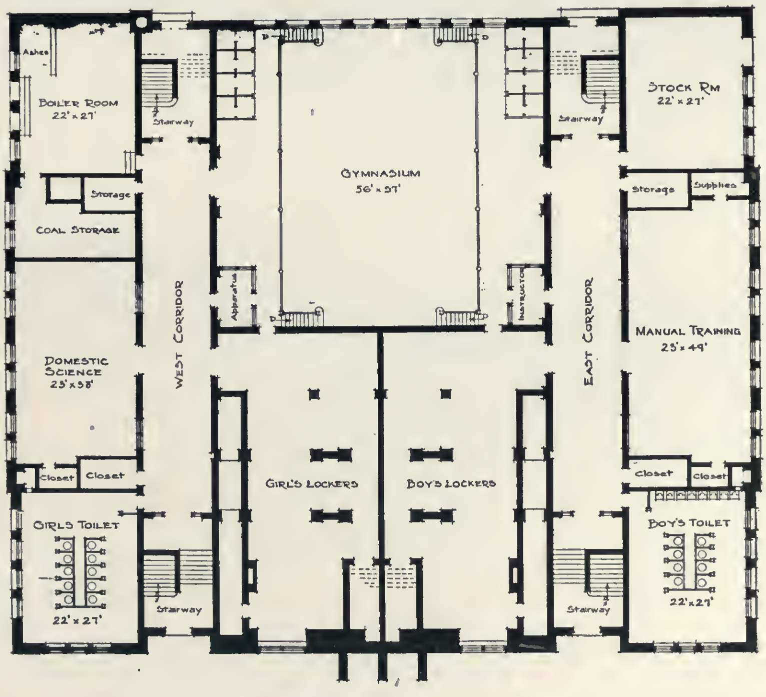
SECOND FLOOR PLAN, HIGH SCHOOL, MT. CARMEL, PA.

Clyde S. Adams, Architect, Philadelphia, Pa.

FLOOR PLANS,
HIGH SCHOOL,
MOUNT CARMEL, PA.

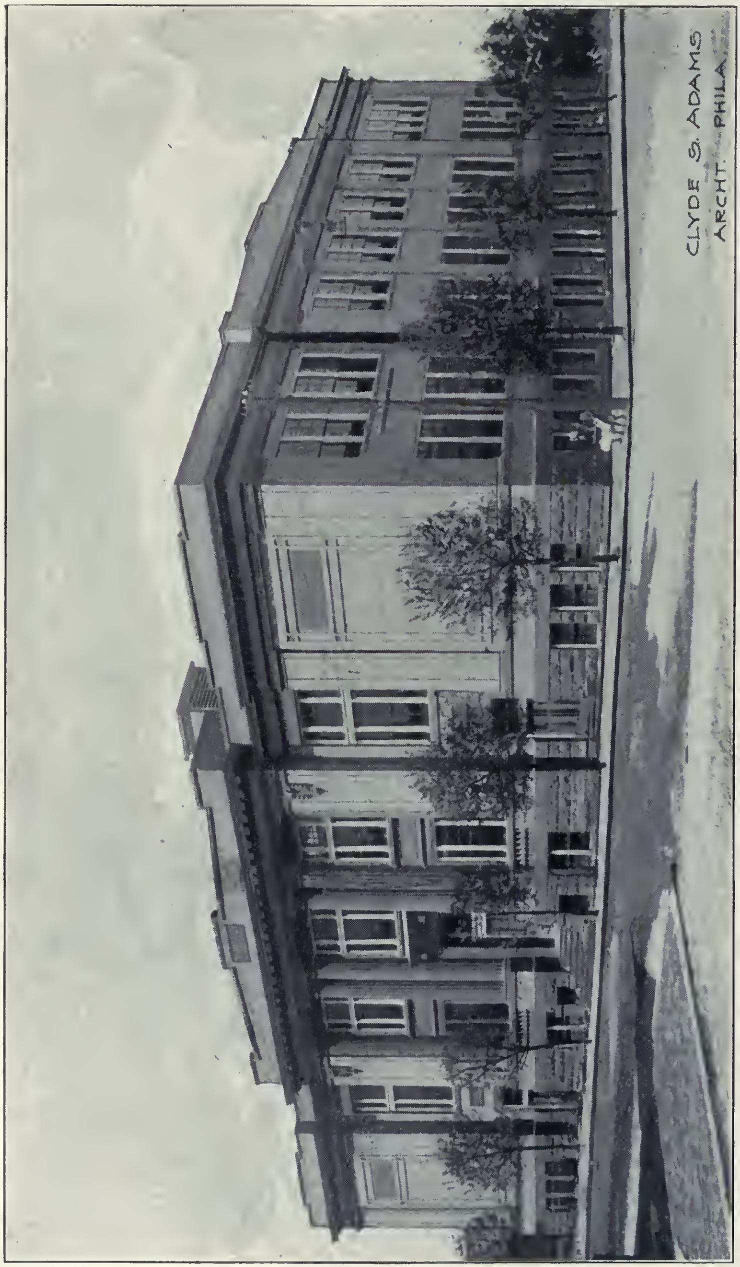

CLASS RM 22'x29'
Stairway
PRINCIPALS ROOM 16'x22
Storage
Passageway
TEACHERS ROOM 16'x22'
PLATFORM 20'x34'
Stairway
CLASS RM 22'x29'
CLASS RM 23'x27'
CLASS RM 23'x27'
WEST CORRIDOR 13' wide
AUDITORIUM 60'x60'
EAST CORRIDOR 13' wide
CLASS RM 23'x27'
CLASS RM 23'x27'
SOUTH CORRIDOR 11' WIDE
CLASS RM 22'x29'
Stairway
BOARD RM & LIBRARY 18x22
MAIN VESTIBULE
SUPERINTENDENTS RM 18'x22'
Stairway
CLASS RM. 22'x29'

FIRST FLOOR PLAN


Ashes
BOILER ROOM 22'x27'
Stairway
Storage
COAL STORAGE
GYMNASIUM 56'x57'
Stairway
STOCK RM 22'x27'
Storage
Supplies
Apparatus
Instructor
WEST CORRIDOR
EAST CORRIDOR
DOMESTIC SCIENCE 25'x38'
MANUAL TRAINING 25'x49'
Closet
Closet
Closet
Closet
GIRLS TOILET 22'x27'
GIRL'S LOCKERS
BOYS LOCKERS
BOY'S TOILET 22'x27'
Stairway
Stairway

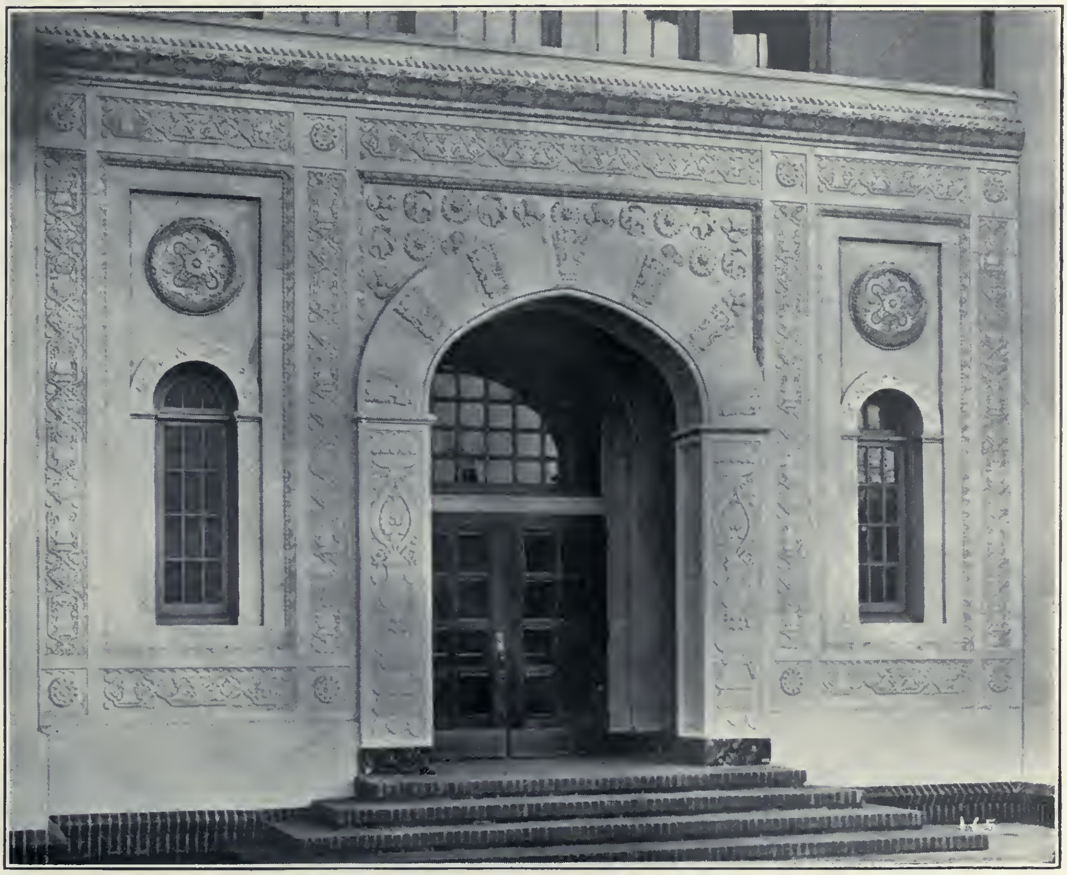
BASEMENT PLAN

Clyde S. Adams, Architect,
Philadelphia, Pa.

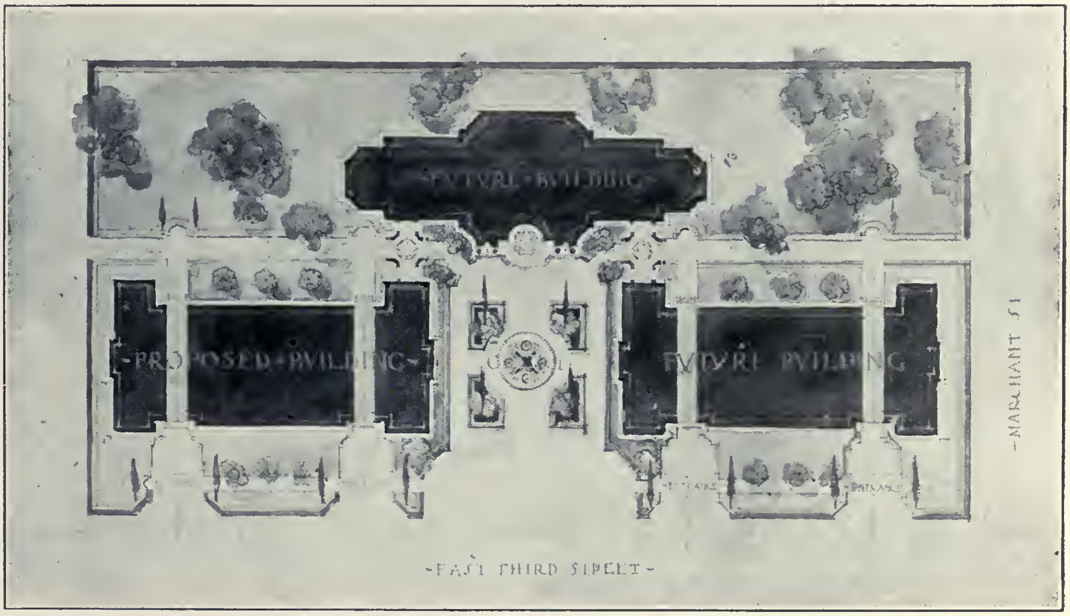

CLYDE S. ADAMS
ARCHT. PHILA.

HIGH SCHOOL, MOUNT CARMEL, PA.

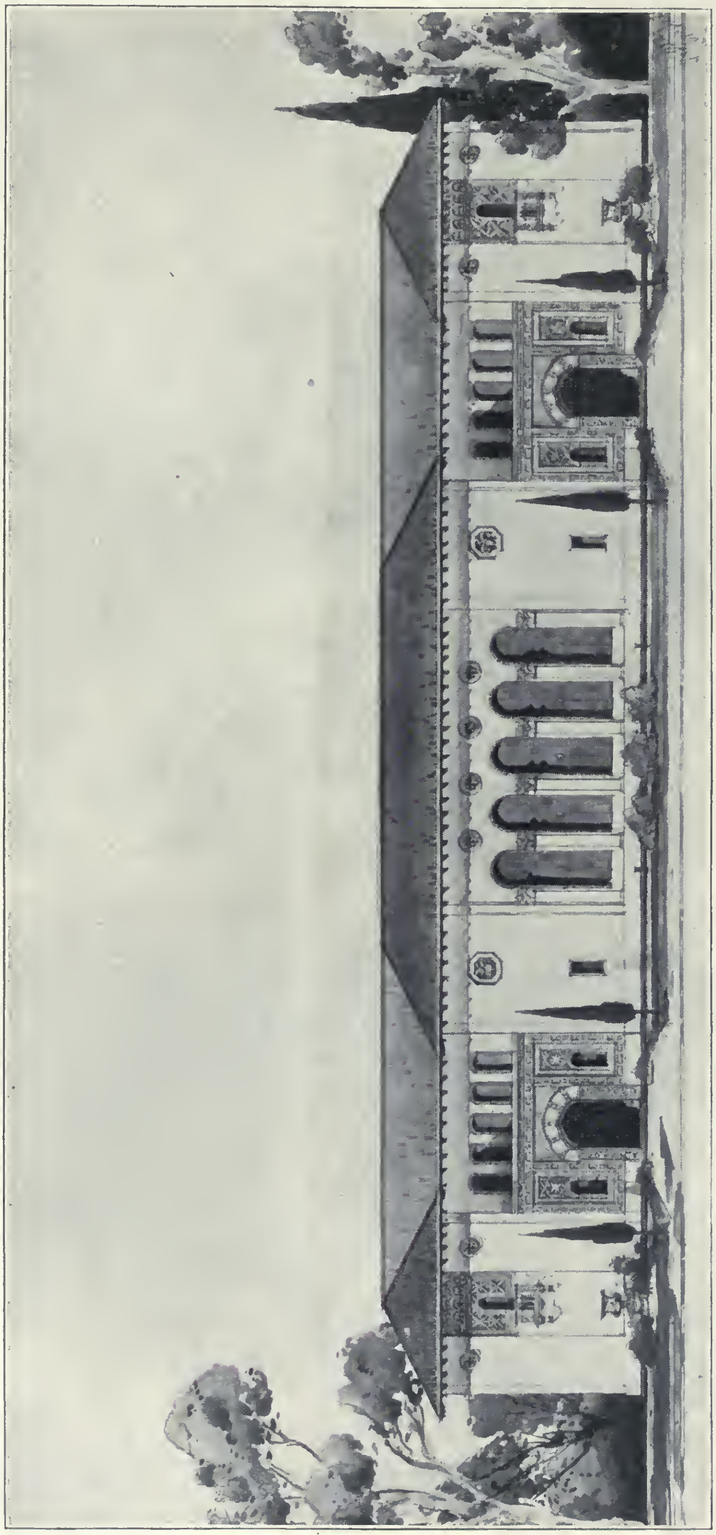
Clyde S. Adams, Architect, Philadelphia, Pa.



DETAIL OF ENTRANCE, HIGH SCHOOL, WATSONVILLE, CAL.

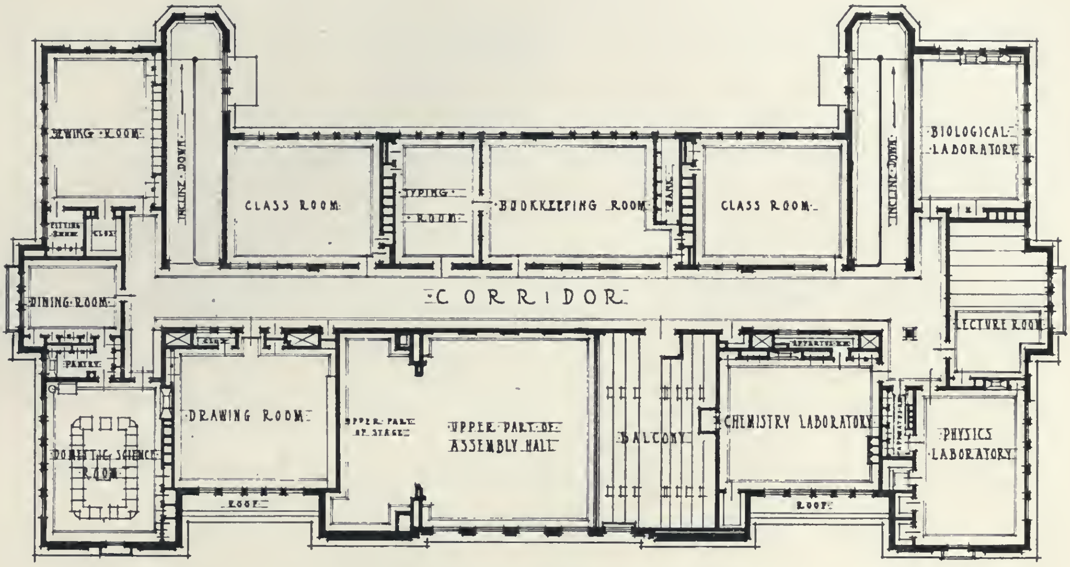

·FVTVRE·BVILDING·
·PROPOSED·BVILDING·
FVTVRE BVILDING
·MARCHANT ST·
·EAST THIRD STREET·

PLAT PLAN, HIGH SCHOOL, WATSONVILLE, CAL.
W. H. Weeks, Architect, San Francisco, Cal.

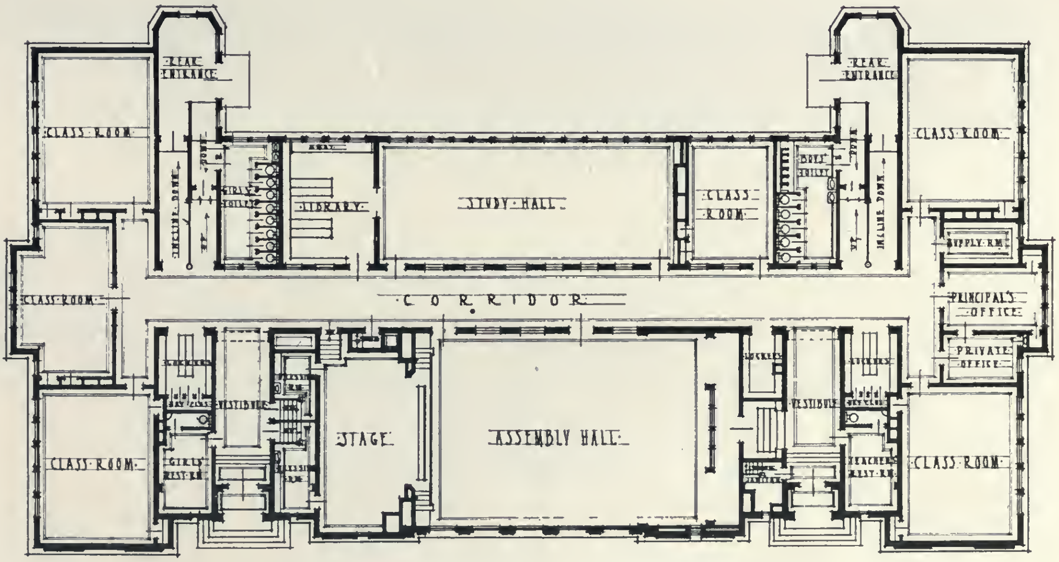


HIGH SCHOOL, WATSONVILLE, CAL.

W. H. Weeks, Architect, San Francisco, Cal.

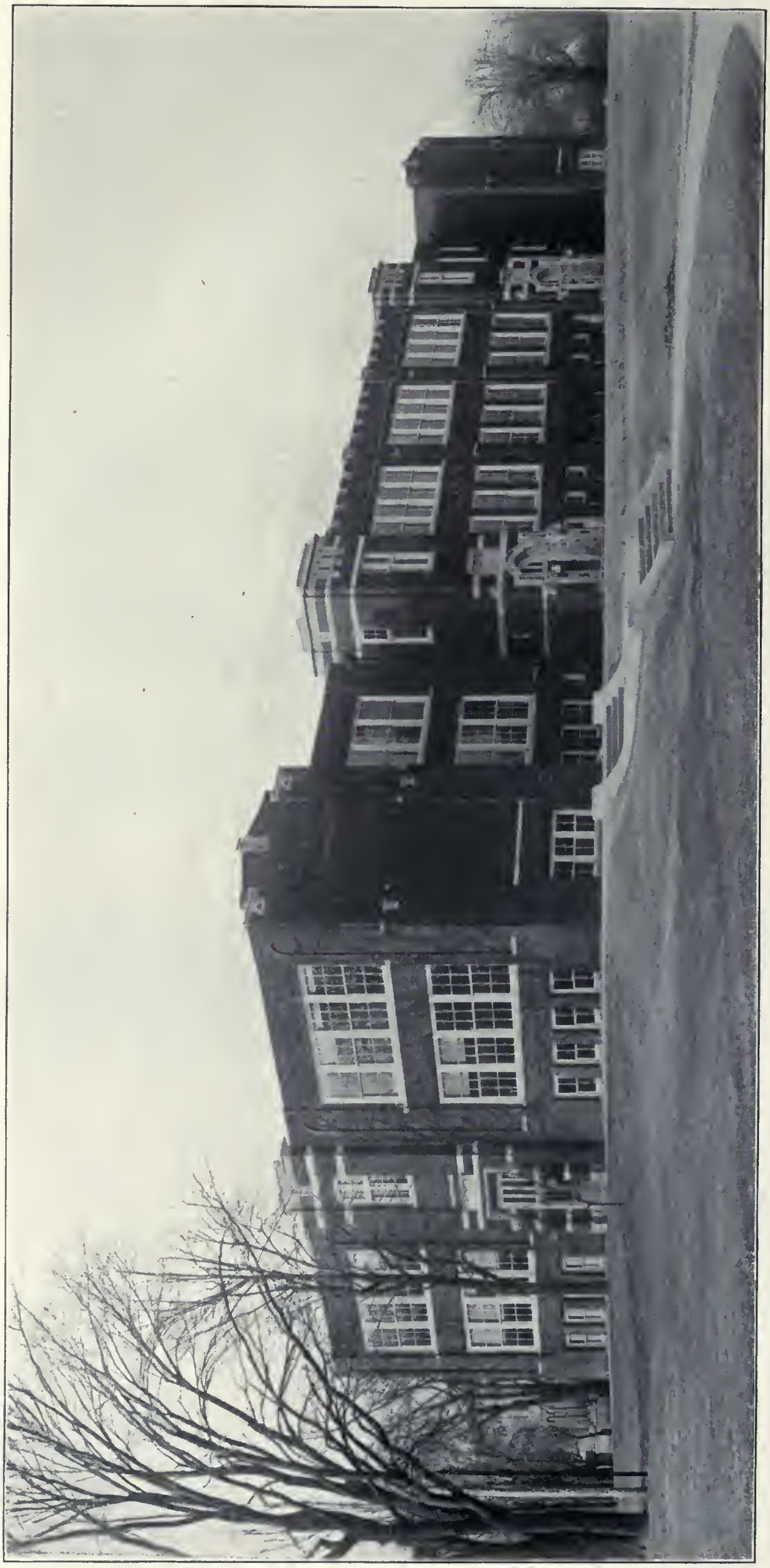

SEWING ROOM
INCLINE DOWN
CLASS ROOM
TYPING ROOM
BOOKKEEPING ROOM
BANK
CLASS ROOM
INCLINE DOWN
BIOLOGICAL LABORATORY
CLOS
DINING ROOM
PANTRY
CORRIDOR
LECTURE ROOM
DRAWING ROOM
UPPER PART OF STAGE
UPPER PART OF ASSEMBLY HALL
BALCONY
CHEMISTRY LABORATORY
PHYSICS LABORATORY
DOMESTIC SCIENCE ROOM
ROOF
ROOF

SECOND FLOOR PLAN, HIGH SCHOOL, WATSONVILLE, CAL.


REAR ENTRANCE
REAR ENTRANCE
CLASS ROOM
INCLINE DOWN
UP
GIRLS' TOILET
LIBRARY
STUDY HALL
CLASS ROOM
BOYS' TOILET
INCLINE DOWN
UP
CLASS ROOM
SUPPLY RM
CLASS ROOM
CORRIDOR
PRINCIPAL'S OFFICE
PRIVATE OFFICE
LOCKERS
VESTIBULE
CLASS ROOM
GIRLS REST RM
STAGE
ASSEMBLY HALL
LOCKERS
VESTIBULE
TEACHERS REST RM
CLASS ROOM

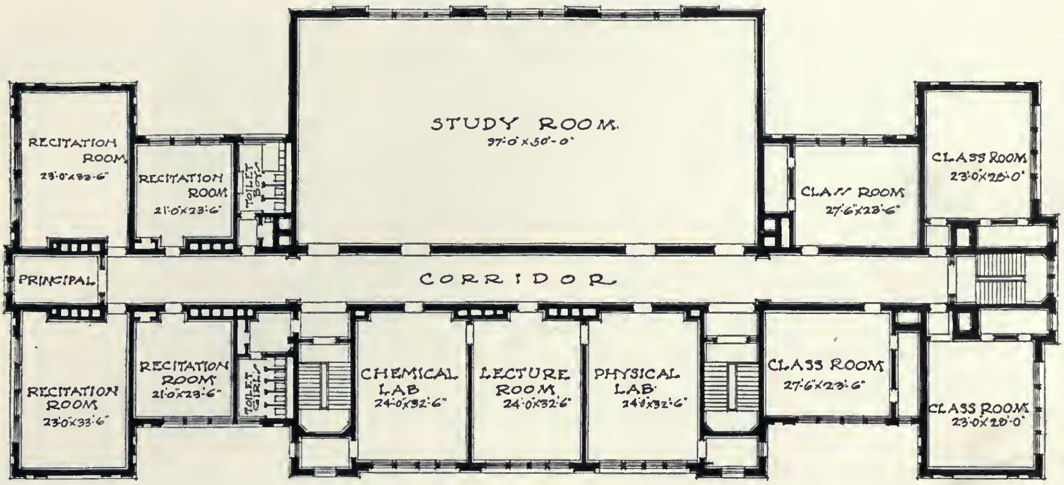
FIRST FLOOR PLAN, HIGH SCHOOL, WATSONVILLE, CAL.

W. H. Weeks, Architect, San Francisco, Cal.

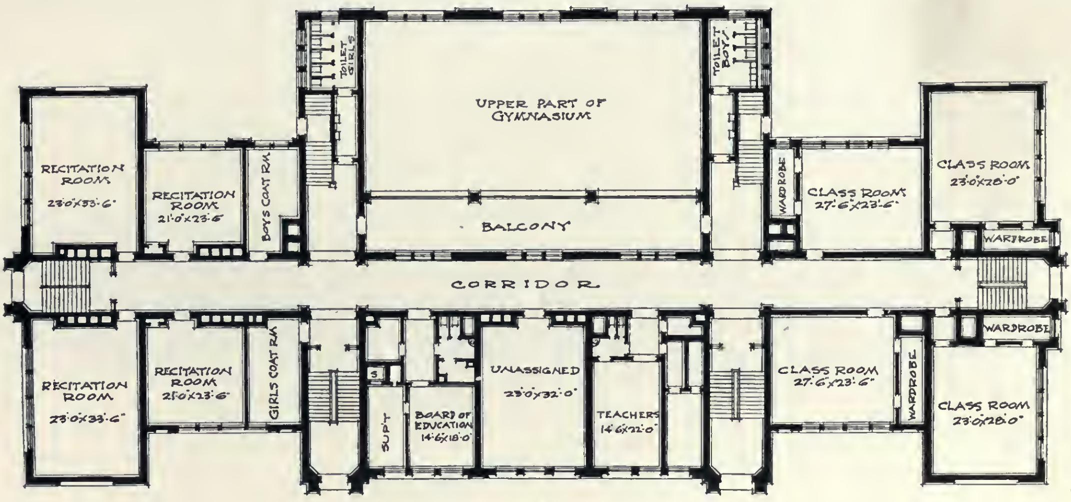


HIGH SCHOOL, VAN WERT, O.

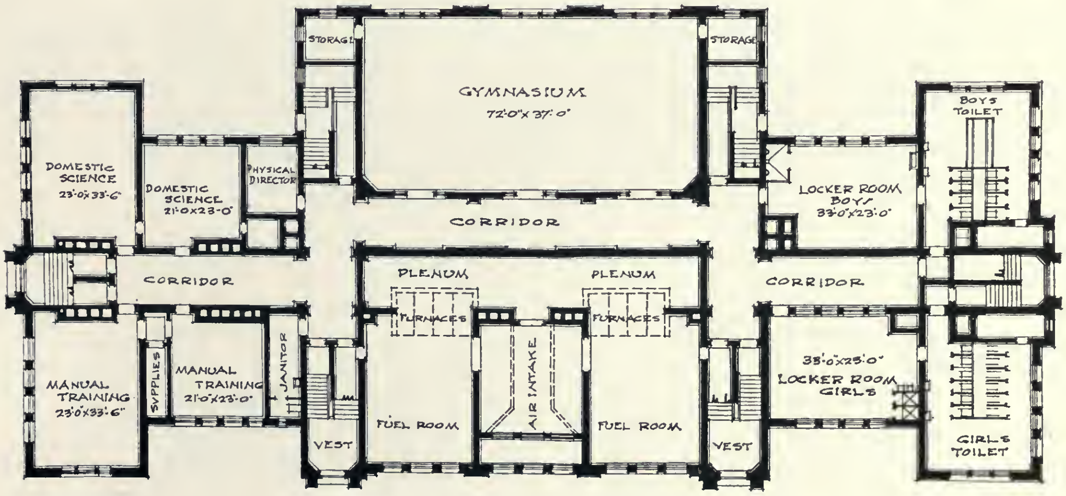
Frank L. Packard, Architect, Columbus, O.


STUDY ROOM
97'-0"x50'-0"
RECITATION ROOM
23'-0"x33'-6"
RECITATION ROOM
21'-0"x23'-6"
TOILET BOYS
CLASS ROOM
27'-6"x23'-6"
CLASS ROOM
23'-0"x28'-0"
PRINCIPAL
CORRIDOR
RECITATION ROOM
23'-0"x33'-6"
RECITATION ROOM
21'-0"x23'-6"
TOILET GIRLS
CHEMICAL LAB
24'-0"x32'-6"
LECTURE ROOM
24'-0"x32'-6"
PHYSICAL LAB
24'-0"x32'-6"
CLASS ROOM
27'-6"x23'-6"
CLASS ROOM
23'-0"x28'-0"

SECOND FLOOR PLAN

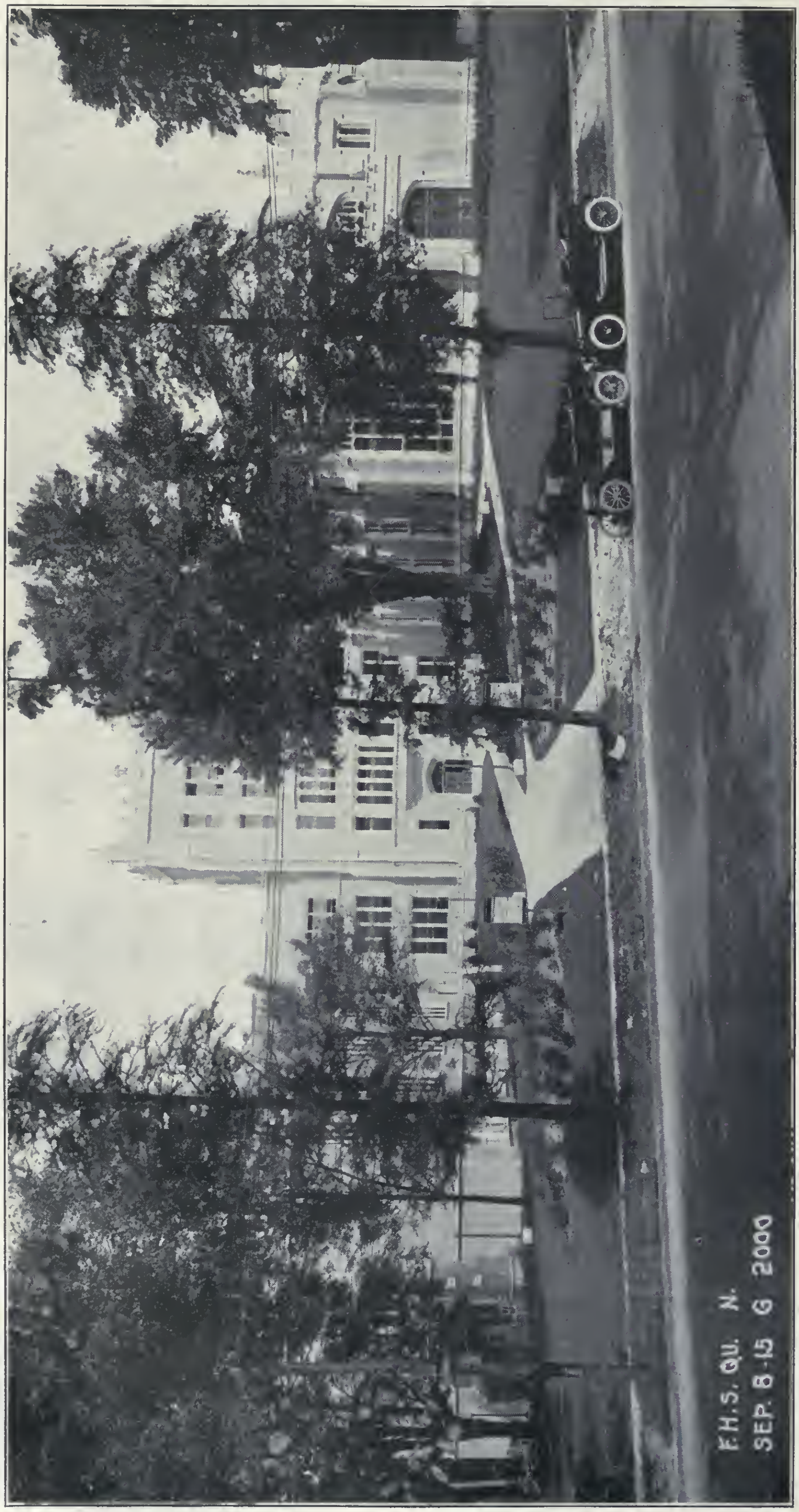

TOILET GIRLS
TOILET BOYS
UPPER PART OF GYMNASIUM
BALCONY
RECITATION ROOM
23'-0"x33'-6"
RECITATION ROOM
21'-0"x23'-6"
BOYS COAT RM
WARDROBE
CLASS ROOM
27'-6"x23'-6"
CLASS ROOM
23'-0"x28'-0"
WARDROBE
CORRIDOR
WARDROBE
RECITATION ROOM
23'-0"x33'-6"
RECITATION ROOM
21'-0"x23'-6"
GIRLS COAT RM
S
SUP'T
BOARD OF EDUCATION
14'-6"x18'-0"
UNASSIGNED
23'-0"x32'-0"
TEACHERS
14'-6"x22'-0"
CLASS ROOM
27'-6"x23'-6"
WARDROBE
CLASS ROOM
23'-0"x28'-0"

FIRST FLOOR PLAN


STORAGE
STORAGE
GYMNASIUM
72'-0"x37'-0"
BOYS TOILET
DOMESTIC SCIENCE
23'-0"x33'-6"
DOMESTIC SCIENCE
21'-0"x23'-0"
PHYSICAL DIRECTOR
LOCKER ROOM BOYS
33'-0"x23'-0"
CORRIDOR
CORRIDOR
PLENUM
PLENUM
CORRIDOR
FURNACES
FURNACES
MANUAL TRAINING
23'-0"x33'-6"
SUPPLIES
MANUAL TRAINING
21'-0"x23'-0"
JANITOR
AIR INTAKE
FUEL ROOM
FUEL ROOM
VEST
VEST
33'-0"x23'-0"
LOCKER ROOM GIRLS
GIRLS TOILET

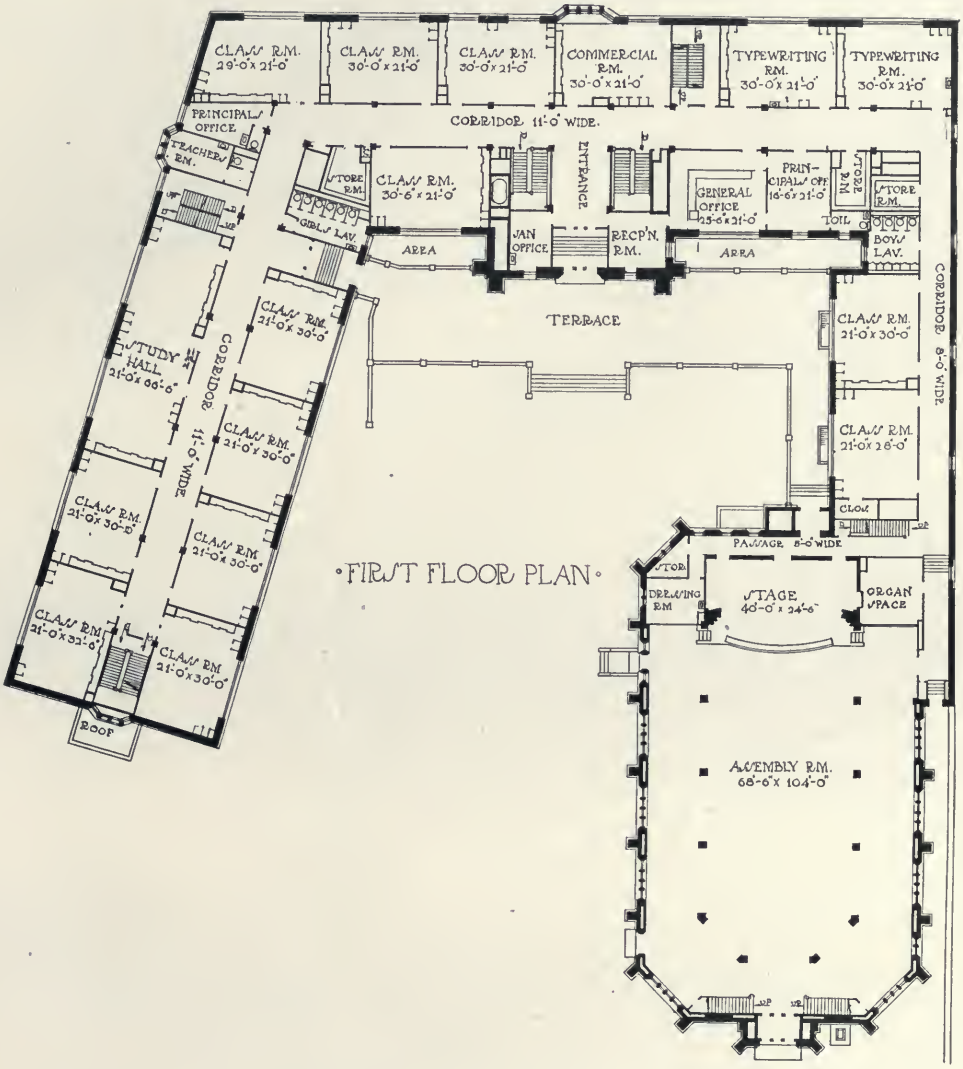
BASEMENT PLAN

FLOOR PLANS, HIGH SCHOOL, VAN WERT, O.
Frank L. Packard, Architect, Columbus, O.


F.H.S. QU. N.
SEP. 8-15 G 2000

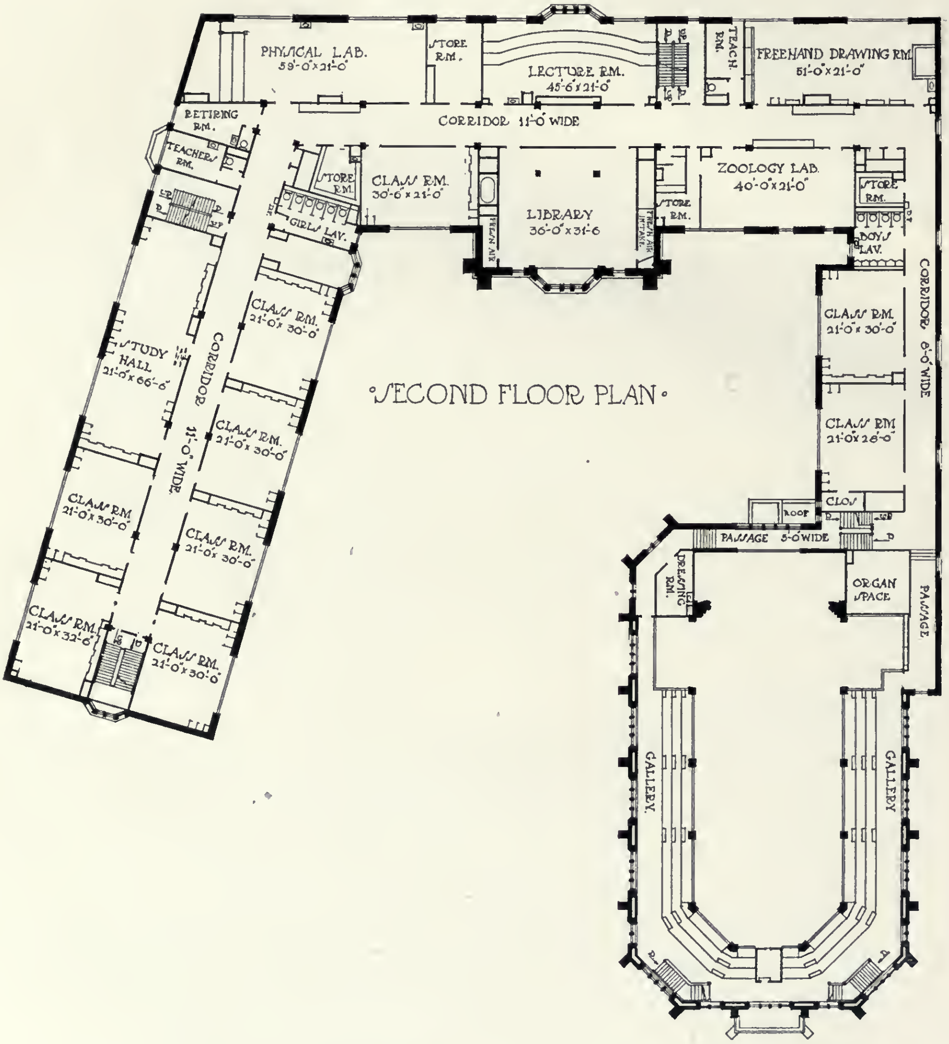
FLUSHING HIGH SCHOOL, BOROUGH OF QUEENS, NEW YORK, N. Y.

C. B. J. Snyder, Architect and Supt. of Buildings, for the Board of Education, New York, N. Y.


CLASS RM. 29'-0" x 21'-0"
CLASS RM. 30'-0" x 21'-0"
CLASS RM. 30'-0" x 21'-0"
COMMERCIAL RM. 30'-0" x 21'-0"
TYPEWRITING RM. 30'-0" x 21'-0"
TYPEWRITING RM. 30'-0" x 21'-0"
PRINCIPALS OFFICE
TEACHERS RM.
CORRIDOR 11'-0" WIDE.
STORE RM.
CLASS RM. 30'-6" x 21'-0"
ENTRANCE
GENERAL OFFICE 25'-6" x 21'-0"
PRINCIPALS OFF. 16'-6" x 21'-0"
STORE RM.
STORE RM.
TOIL.
GIRLS LAV.
AREA
JAN OFFICE
RECP'N. RM.
AREA
BOYS LAV.
CORRIDOR 8'-0" WIDE
TERRACE
STUDY HALL 21'-0" x 66'-0"
CORRIDOR 11'-0" WIDE
CLASS RM. 21'-0" x 30'-0"
CLASS RM. 21'-0" x 30'-0"
CLASS RM. 21'-0" x 30'-0"
CLASS RM. 21'-0" x 30'-0"
CLASS RM. 21'-0" x 32'-0"
CLASS RM. 21'-0" x 30'-0"
ROOF
CLASS RM. 21'-0" x 30'-0"
CLASS RM. 21'-0" x 28'-0"
CLOS.
•FIRST FLOOR PLAN•
PASSAGE 8'-0" WIDE
STOR.
DRESSING RM.
STAGE 40'-0" x 24'-6"
ORGAN SPACE
ASSEMBLY RM. 68'-6" x 104'-0"

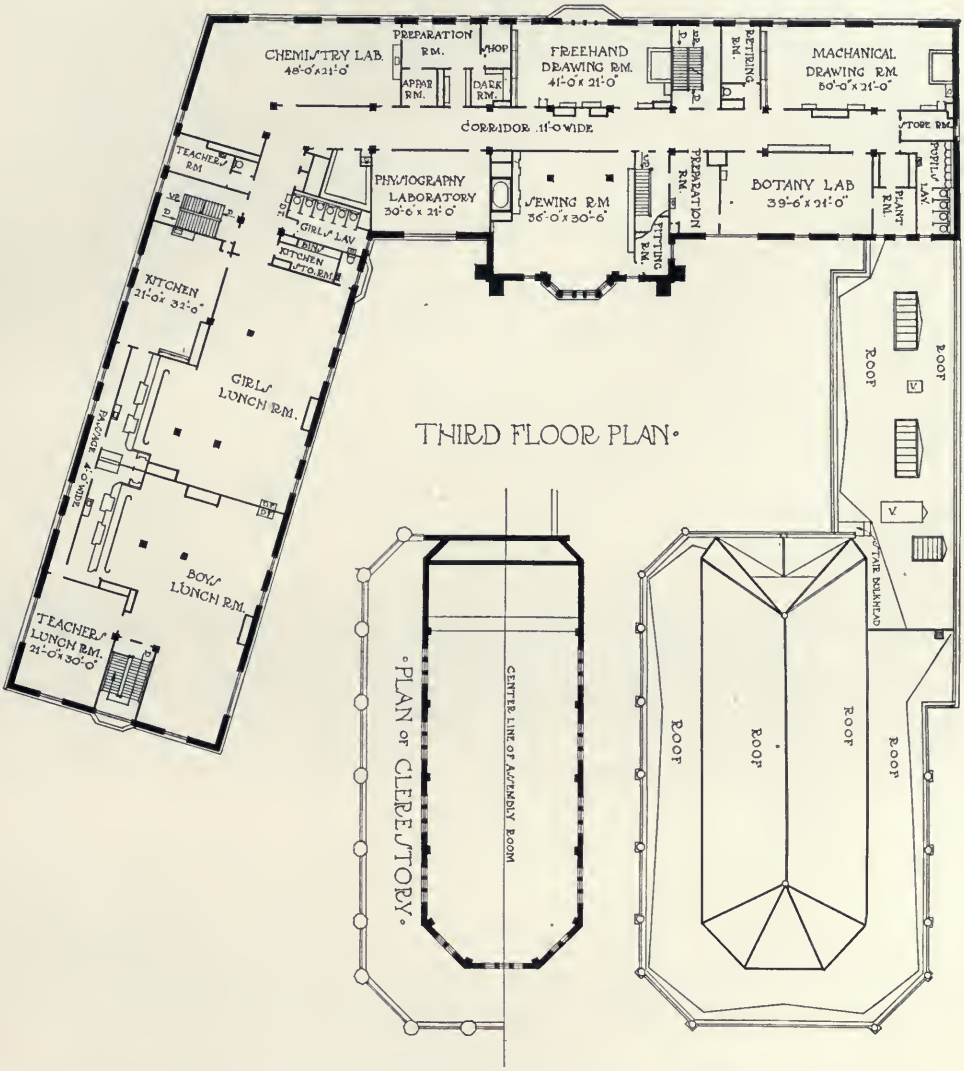
FIRST FLOOR PLAN, FLUSHING HIGH SCHOOL, BOROUGH OF QUEENS, NEW YORK, N. Y.

C. B. J. Snyder, Architect and Supt. of Buildings, for the Board of Education, New York, N. Y.


PHYSICAL LAB. 59'-0"x21'-0"
STORE RM.
LECTURE RM. 45'-6"x21'-0"
TEACH. RM.
FREEHAND DRAWING RM. 51'-0"x21'-0"
RETIRING RM.
TEACHERS RM.
CORRIDOR 11'-0" WIDE
STORE RM.
CLASS RM. 30'-6"x21'-0"
GIRLS LAV.
LIBRARY 36'-0"x31'-6
FRESH AIR INTAKE
FRESH AIR INTAKE
STORE RM.
ZOOLOGY LAB. 40'-0"x21'-0"
STORE RM.
BOYS LAV.
CORRIDOR 6'-0" WIDE
STUDY HALL 21'-0"x66'-6"
CORRIDOR 11'-0" WIDE
CLASS RM. 21'-0"x30'-0"
CLASS RM. 21'-0"x30'-0"
CLASS RM. 21'-0"x30'-0"
CLASS RM. 21'-0"x30'-0"
CLASS RM. 21'-0"x30'-0"
CLASS RM. 21'-0"x32'-6"
CLASS RM. 21'-0"x30'-0"
CLASS RM 21'-0"x28'-0"
SECOND FLOOR PLAN
ROOF
CLOS
PASSAGE 5'-0" WIDE
DRESSING RM.
ORGAN SPACE
PASSAGE
GALLERY
GALLERY

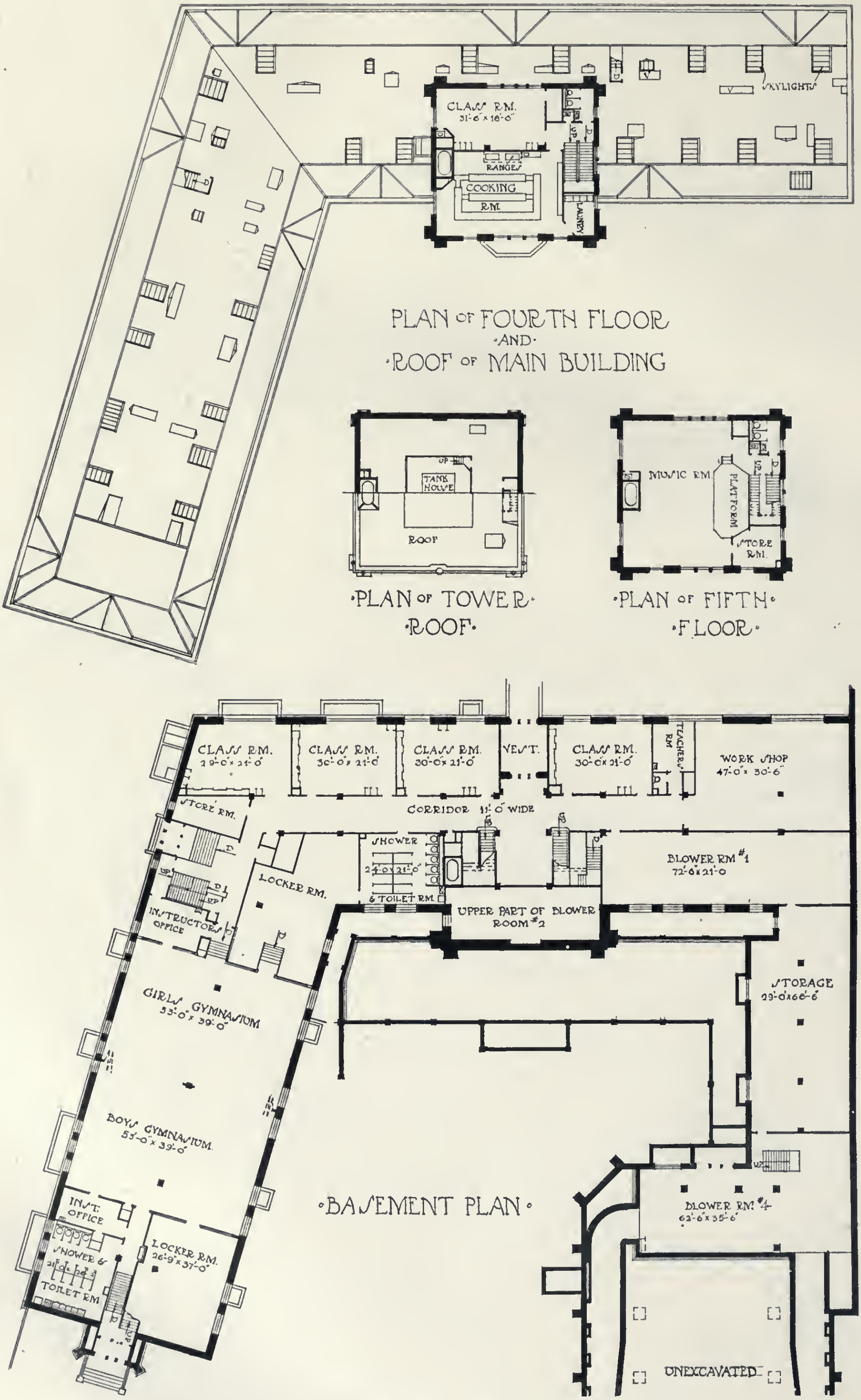
SECOND FLOOR PLAN, FLUSHING HIGH SCHOOL, BOROUGH OF QUEENS, NEW YORK, N. Y.

C. B. J. Snyder, Architect and Superintendent of Buildings for the Board of Education, New York, N. Y.

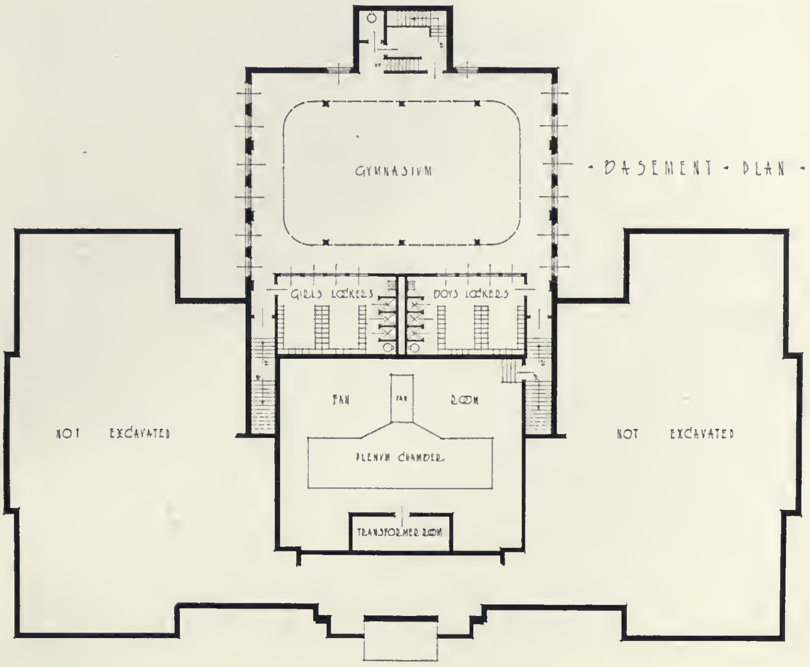

CHEMISTRY LAB. 48'-0"x21'-0"
PREPARATION RM.
SHOP
APPAR RM.
DARK RM.
FREEHAND DRAWING RM. 41'-0"x21'-0"
RETIRING RM.
MACHANICAL DRAWING RM. 50'-0"x21'-0"
CORRIDOR 11'-0 WIDE
STORE RM.
PUPILS LAV.
TEACHERS RM
PHYSIOGRAPHY LABORATORY 30'-6"x21'-0"
SEWING RM 36'-0"x30'-6"
PREPARATION RM.
BOTANY LAB 39'-6"x21'-0"
PLANT RM.
FITTING RM.
GIRLS LAV
DINING
KITCHEN STO. RM.
KITCHEN 21'-0"x32'-0"
GIRLS LUNCH RM.
PASSAGE 4'-0" WIDE
BOYS LUNCH RM.
TEACHERS LUNCH RM. 21'-0"x30'-0"
THIRD FLOOR PLAN.
PLAN OF CLERESTORY.
CENTER LINE OF ASSEMBLY ROOM
ROOF
ROOF
ROOF
ROOF
ROOF
ROOF
V.
V.
STAIR BULKHEAD

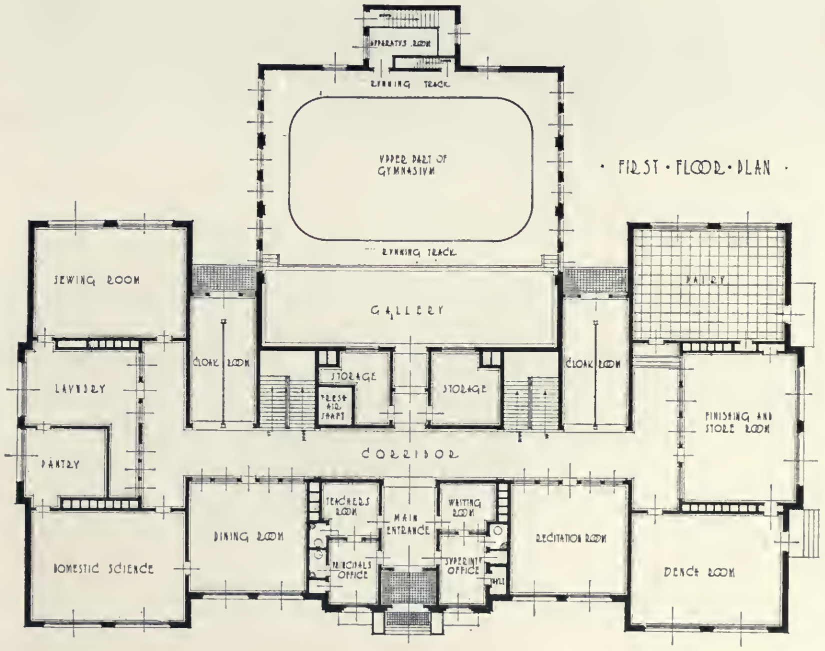
THIRD FLOOR PLAN, FLUSHING HIGH SCHOOL, BOROUGH OF QUEENS, NEW YORK, N. Y.

C. B. J. Snyder, Architect and Superintendent of Buildings for the Board of Education, New York, N. Y.


CLASS RM.
31'-6" x 18'-6"
RANGES
COOKING
RM.
LAUNDRY
UP
D
SKYLIGHTS
PLAN OF FOURTH FLOOR
·AND·
·ROOF OF MAIN BUILDING
UP
TANK HOUSE
ROOF
·PLAN OF TOWER·
·ROOF·
MUSIC RM.
PLATFORM
STORE RM.
·PLAN OF FIFTH·
·FLOOR·
CLASS RM.
29'-0" x 21'-0"
CLASS RM.
30'-0" x 21'-0"
CLASS RM.
30'-0" x 21'-0"
VEST.
CLASS RM.
30'-0" x 21'-0"
TEACHERS RM
WORK SHOP
47'-0" x 30'-6"
STORE RM.
CORRIDOR 11'-0" WIDE
SHOWER
24'-0" x 21'-0"
& TOILET RM.
BLOWER RM #1
72'-6" x 21'-0
LOCKER RM.
INSTRUCTORS OFFICE
UPPER PART OF BLOWER
ROOM #2
STORAGE
29'-0" x 66'-6"
GIRLS GYMNASIUM
53'-0" x 39'-0"
BOYS GYMNASIUM
53'-0" x 39'-0"
INST. OFFICE
SHOWER &
TOILET RM.
LOCKER RM.
26'-9" x 37'-0"
·BASEMENT PLAN·
BLOWER RM #4
62'-6" x 35'-6"
UNEXCAVATED

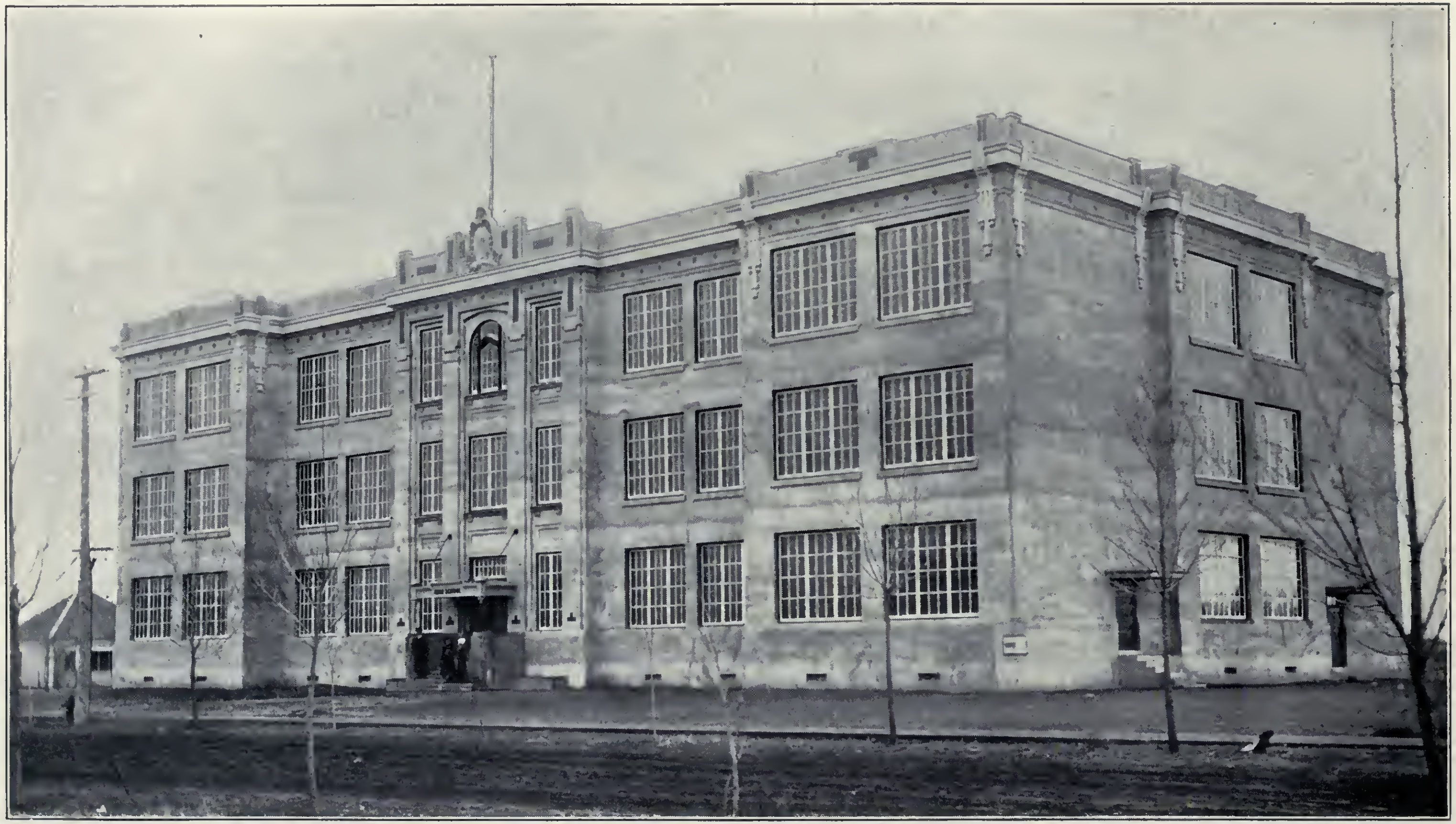
FLOOR PLANS, FLUSHING HIGH SCHOOL, NEW YORK, N. Y.


GYMNASIUM
· BASEMENT · PLAN ·
GIRLS LOCKERS
BOYS LOCKERS
FAN ROOM
FAN
PLENUM CHAMBER
TRANSFORMER ROOM
NOT EXCAVATED
NOT EXCAVATED


APPARATUS ROOM
RUNNING TRACK
UPPER PART OF GYMNASIUM
· FIRST · FLOOR · PLAN ·
RUNNING TRACK
SEWING ROOM
GALLERY
DAIRY
CLOAK ROOM
STORAGE
FRESH AIR SHAFT
STORAGE
CLOAK ROOM
LAUNDRY
FINISHING AND STORE ROOM
PANTRY
CORRIDOR
TEACHERS ROOM
MAIN ENTRANCE
WAITING ROOM
DINING ROOM
RECITATION ROOM
DOMESTIC SCIENCE
PRINCIPALS OFFICE
SUPERINT OFFICE
BENCH ROOM

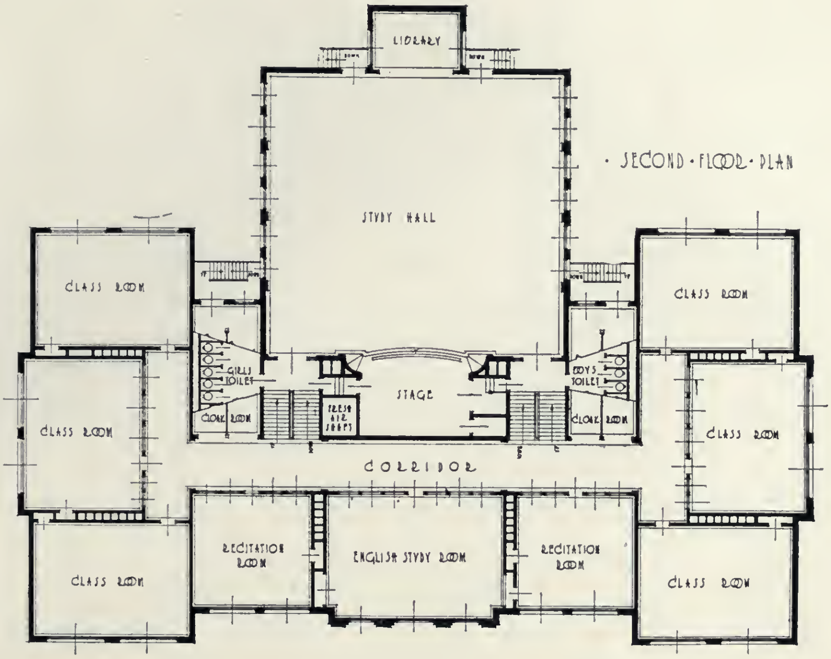
FLOOR PLANS, HIGH SCHOOL, BURLEY, IDA.

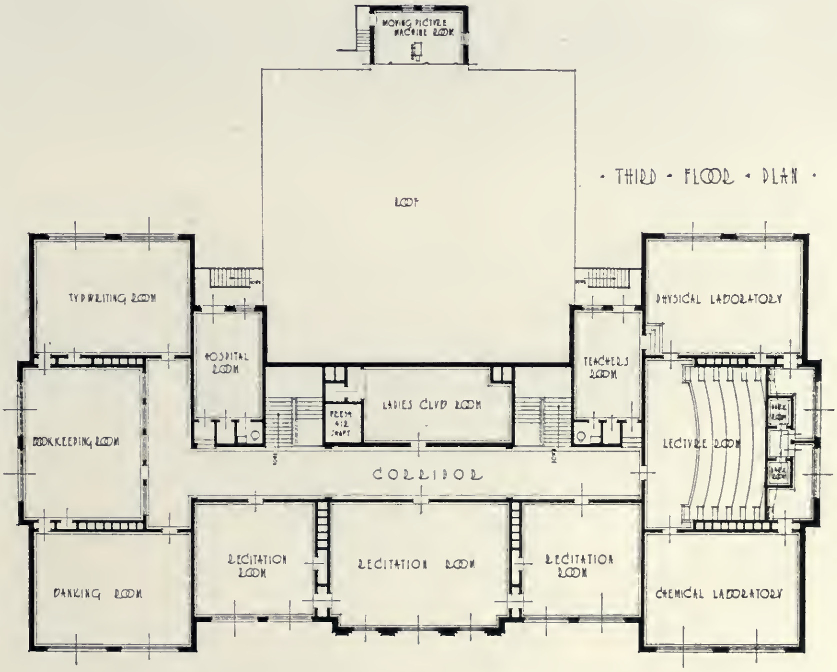
C. L. Wilson, Architect, Butte, Mont.



HIGH SCHOOL, BURLEY, IDA.

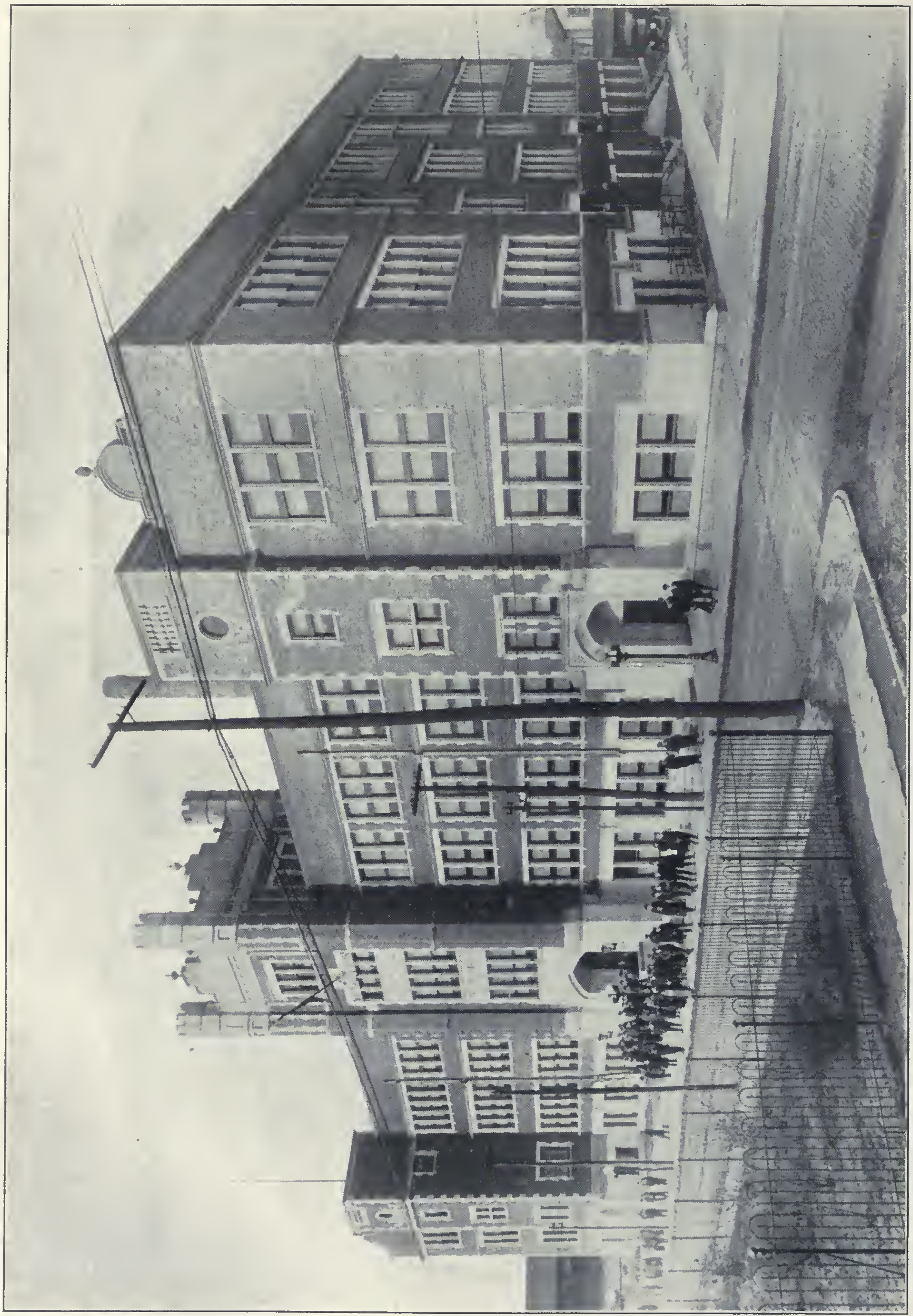
C. L. Wilson, Architect, Butte, Mont.


SECOND · FLOOR · PLAN
LIBRARY
STUDY HALL
CLASS ROOM
CLASS ROOM
GIRLS TOILET
BOYS TOILET
CLASS ROOM
CLASS ROOM
CLOAK ROOM
FRESH AIR SHAFT
STAGE
CLOAK ROOM
CLASS ROOM
CORRIDOR
RECITATION ROOM
ENGLISH STUDY ROOM
RECITATION ROOM
CLASS ROOM
CLASS ROOM

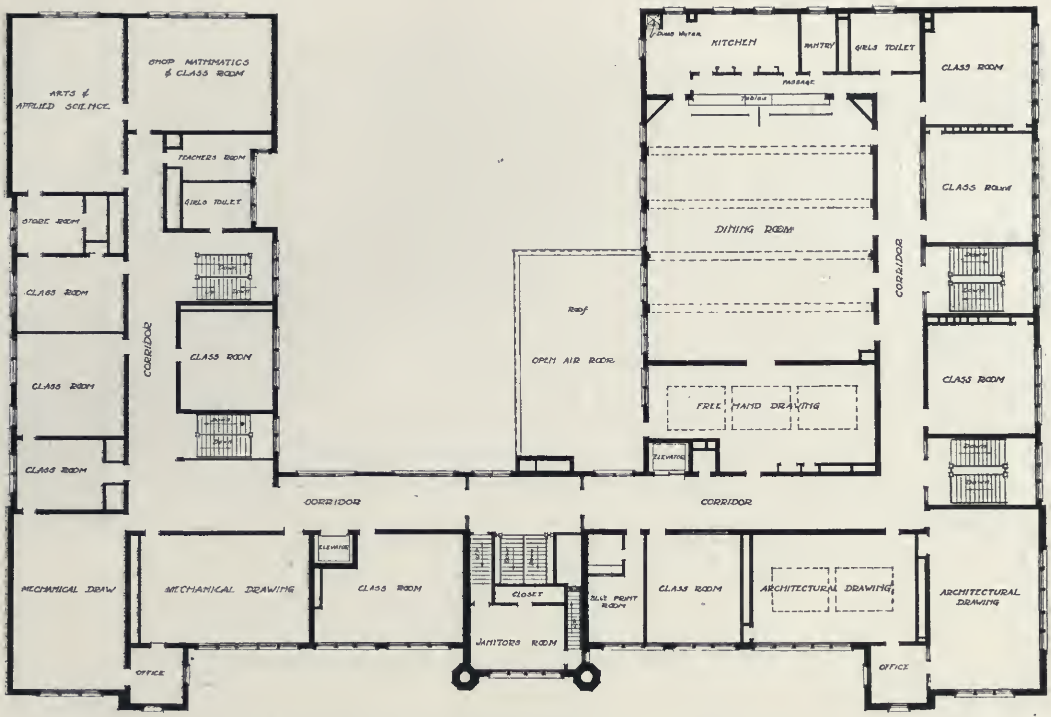

MOVING PICTURE MACHINE ROOM
· THIRD · FLOOR · PLAN ·
ROOF
TYPEWRITING ROOM
PHYSICAL LABORATORY
HOSPITAL ROOM
TEACHERS ROOM
LADIES CLUB ROOM
FRESH AIR SHAFT
BOOKKEEPING ROOM
LECTURE ROOM
DARK ROOM
DARK ROOM
CORRIDOR
RECITATION ROOM
RECITATION ROOM
RECITATION ROOM
BANKING ROOM
CHEMICAL LABORATORY

FLOOR PLANS, HIGH SCHOOL, BURLEY, IDA.

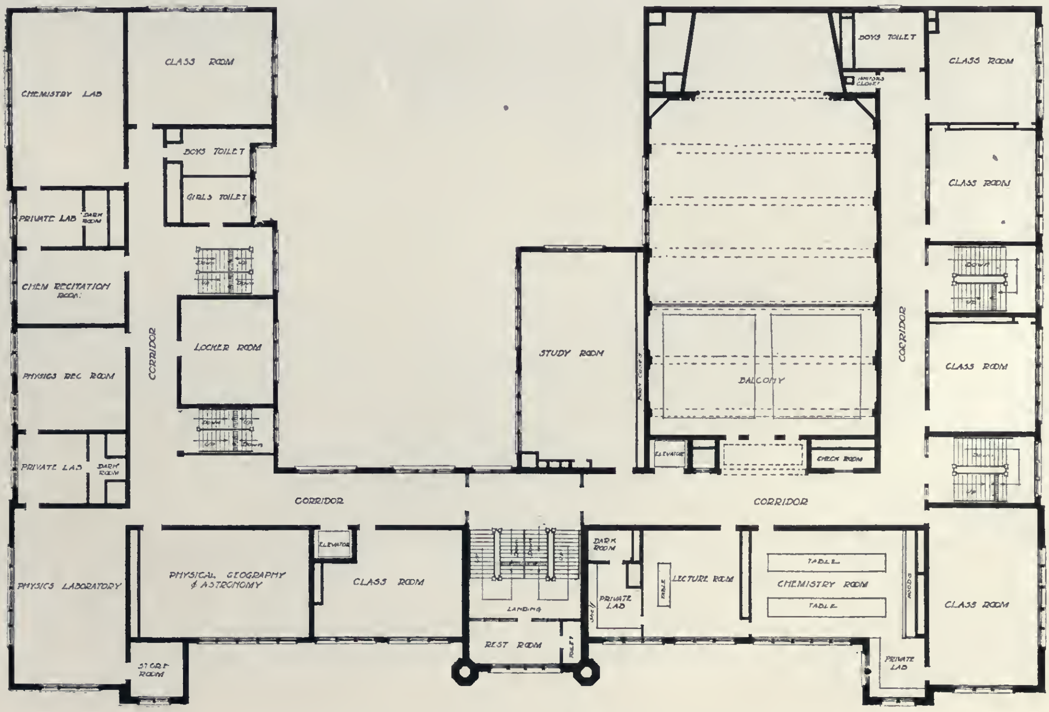
C. L. Wilson, Architect, Butte, Mont.



STIVERS HIGH SCHOOL, DAYTON, O.
E. J. Mounstephen, Architect, Dayton, O.

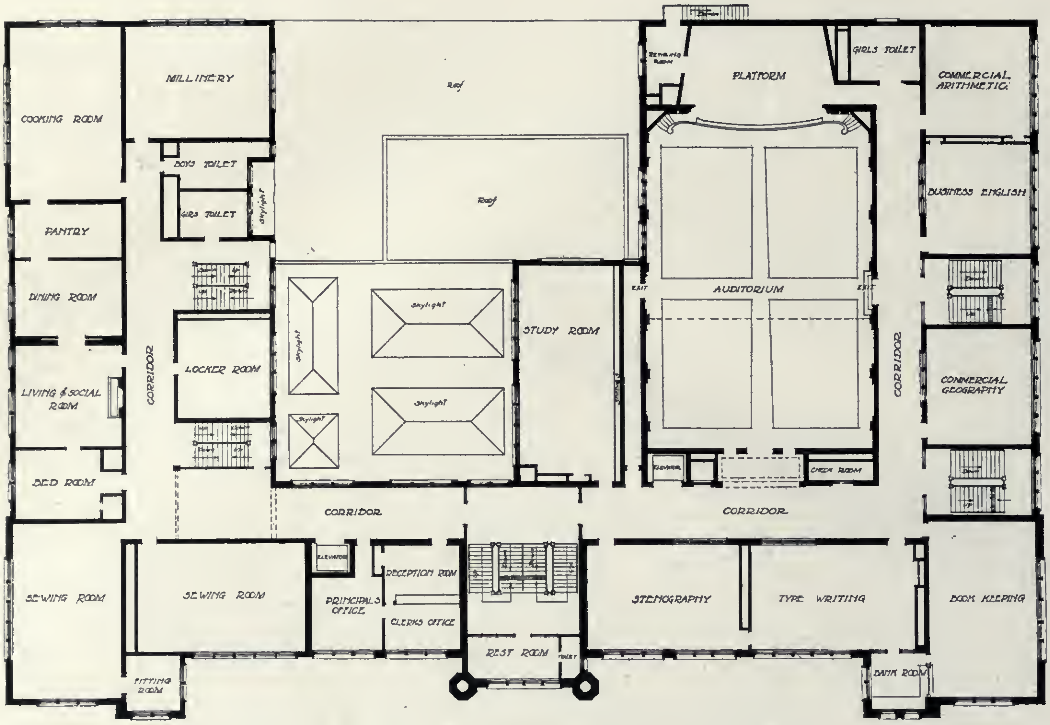

ARTS & APPLIED SCIENCE
SHOP MATHMATICS & CLASS ROOM
TEACHERS ROOM
GIRLS TOILET
STORE ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CORRIDOR
MECHANICAL DRAW
MECHANICAL DRAWING
ELEVATOR
CLASS ROOM
OFFICE
CORRIDOR
CLOSET
JANITORS ROOM
BLUE PRINT ROOM
CLASS ROOM
ARCHITECTURAL DRAWING
ARCHITECTURAL DRAWING
OFFICE
CORRIDOR
Roof
OPEN AIR ROOM
DUMB WAITER
KITCHEN
PANTRY
GIRLS TOILET
PASSAGE
Tables
DINING ROOM
FREE HAND DRAWING
ELEVATOR
CORRIDOR
CLASS ROOM
CLASS ROOM
CLASS ROOM

THIRD FLOOR PLAN, STIVERS HIGH SCHOOL, DAYTON, O.

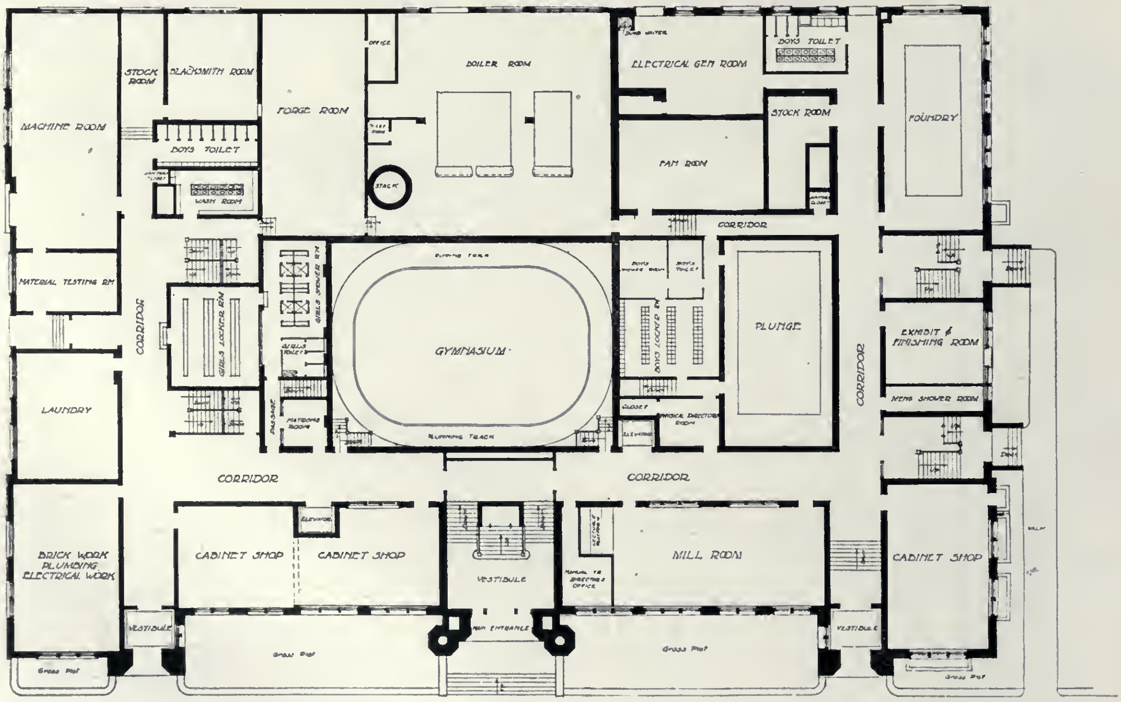

CHEMISTRY LAB
CLASS ROOM
BOYS TOILET
GIRLS TOILET
PRIVATE LAB
DARK ROOM
CHEM RECITATION ROOM
LOCKER ROOM
CORRIDOR
PHYSICS REC ROOM
PRIVATE LAB
DARK ROOM
CORRIDOR
PHYSICS LABORATORY
PHYSICAL GEOGRAPHY & ASTRONOMY
ELEVATOR
CLASS ROOM
STORE ROOM
LANDING
REST ROOM
TOILET
STUDY ROOM
BALCONY
ELEVATOR
CHECK ROOM
CORRIDOR
DARK ROOM
PRIVATE LAB
SHELF
TABLE
LECTURE ROOM
TABLE
CHEMISTRY ROOM
TABLE
HOODS
PRIVATE LAB
BOYS TOILET
JANITORS CLOSET
CLASS ROOM
CLASS ROOM
CORRIDOR
CLASS ROOM
CLASS ROOM

SECOND FLOOR PLAN, STIVERS HIGH SCHOOL, DAYTON, O.

E. J. Mounstephen, Architect, Dayton, O.

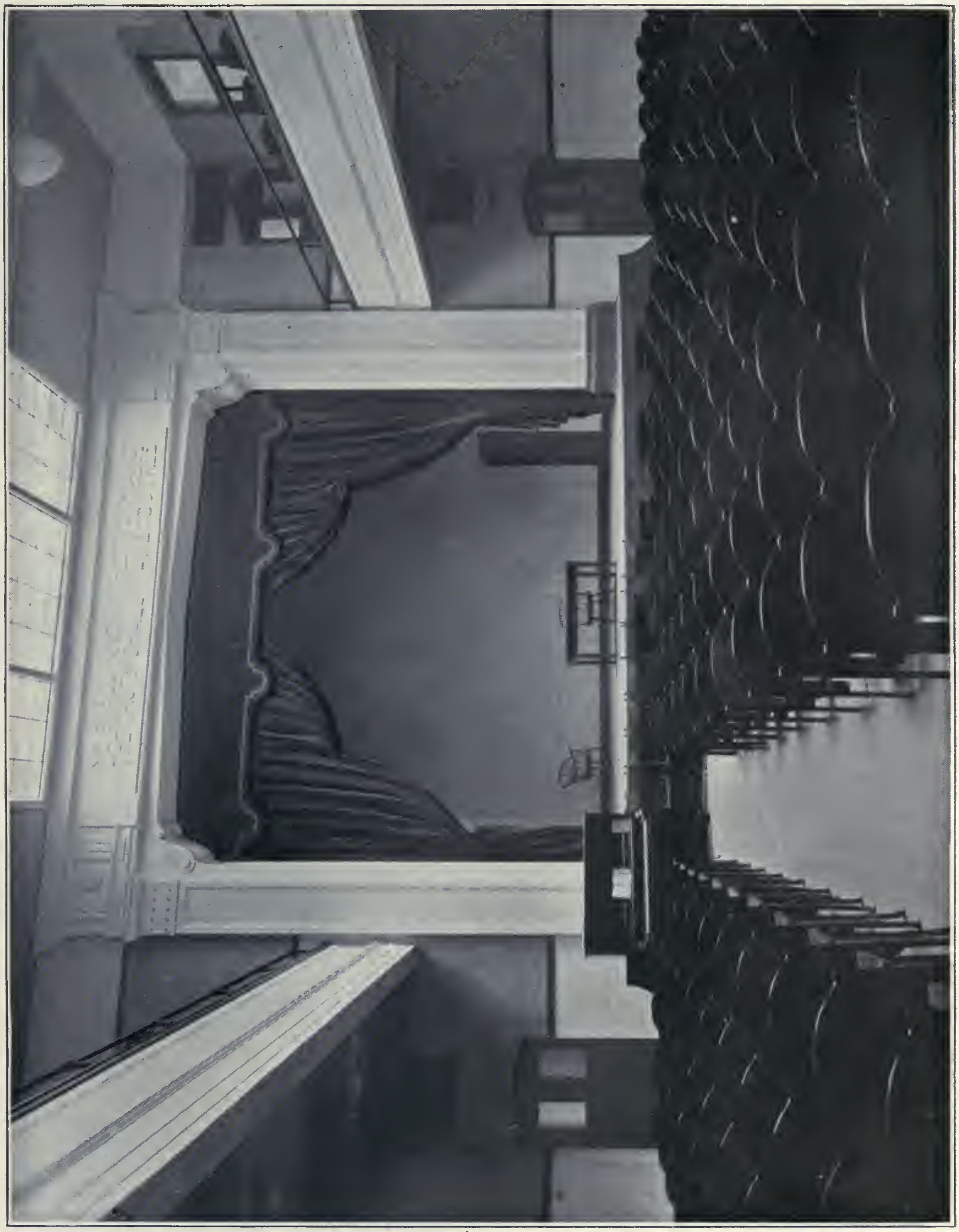

MILLINERY
Roof
COOKING ROOM
BOYS TOILET
GIRLS TOILET
Skylight
PANTRY
DINING ROOM
LOCKER ROOM
CORRIDOR
LIVING & SOCIAL ROOM
BED ROOM
Skylight
STUDY ROOM
PLATFORM
GIRLS TOILET
COMMERCIAL ARITHMETIC
BUSINESS ENGLISH
EXIT
AUDITORIUM
COMMERCIAL GEOGRAPHY
ELEVATOR
CHECK ROOM
CORRIDOR
CORRIDOR
ELEVATOR
RECEPTION ROOM
SEWING ROOM
SEWING ROOM
PRINCIPALS OFFICE
CLERKS OFFICE
STENOGRAPHY
TYPE WRITING
BOOK KEEPING
REST ROOM
TOILET
FITTING ROOM
BANK ROOM

FIRST FLOOR PLAN, STIVERS HIGH SCHOOL, DAYTON, O.

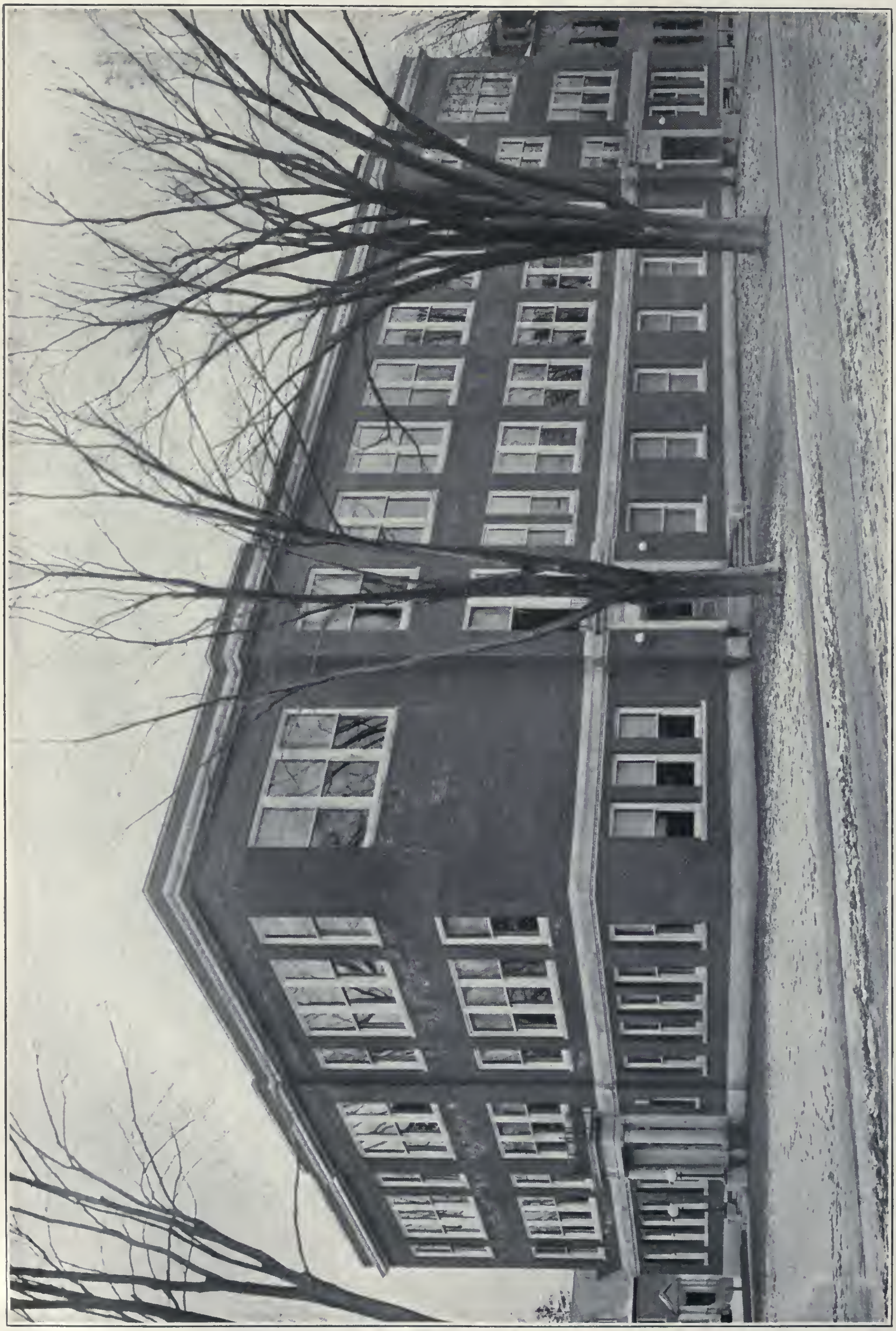

STOCK ROOM
BLACKSMITH ROOM
OFFICE
BOILER ROOM
DUMB WAITER
ELECTRICAL GEN ROOM
BOYS TOILET
MACHINE ROOM
FORGE ROOM
STOCK ROOM
FOUNDRY
BOYS TOILET
WASH ROOM
STACK
FAN ROOM
CORRIDOR
RUNNING TRACK
MATERIAL TESTING RM
GIRLS SHOWER RM
GIRLS LOCKER RM
CORRIDOR
GYMNASIUM
BOYS LOCKER RM
PLUNGE
CORRIDOR
EXHIBIT & FINISHING ROOM
LAUNDRY
PASSAGE
MATRONS ROOM
CLOSET
PHYSICAL DIRECTORS ROOM
ELEVATOR
MENS SHOWER ROOM
CORRIDOR
CORRIDOR
ELEVATOR
BRICK WORK PLUMBING ELECTRICAL WORK
CABINET SHOP
CABINET SHOP
VESTIBULE
MILL ROOM
CABINET SHOP
VESTIBULE
MAIN ENTRANCE
VESTIBULE
Grass Plot
Grass Plot
Grass Plot
Grass Plot

GROUND FLOOR PLAN, STIVERS HIGH SCHOOL, DAYTON, O.

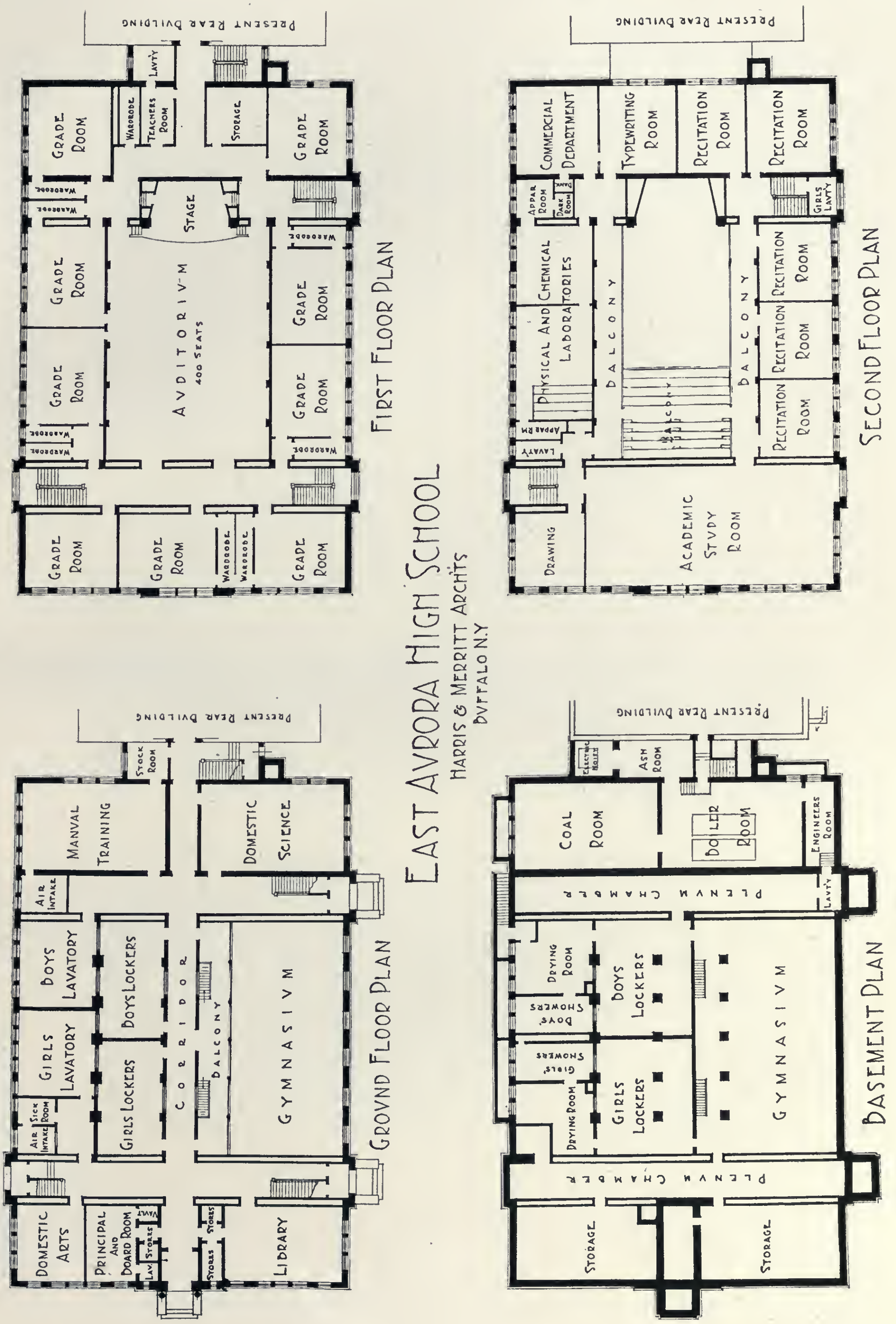
E. J. Mcunstephen, Architect, Dayton, O.

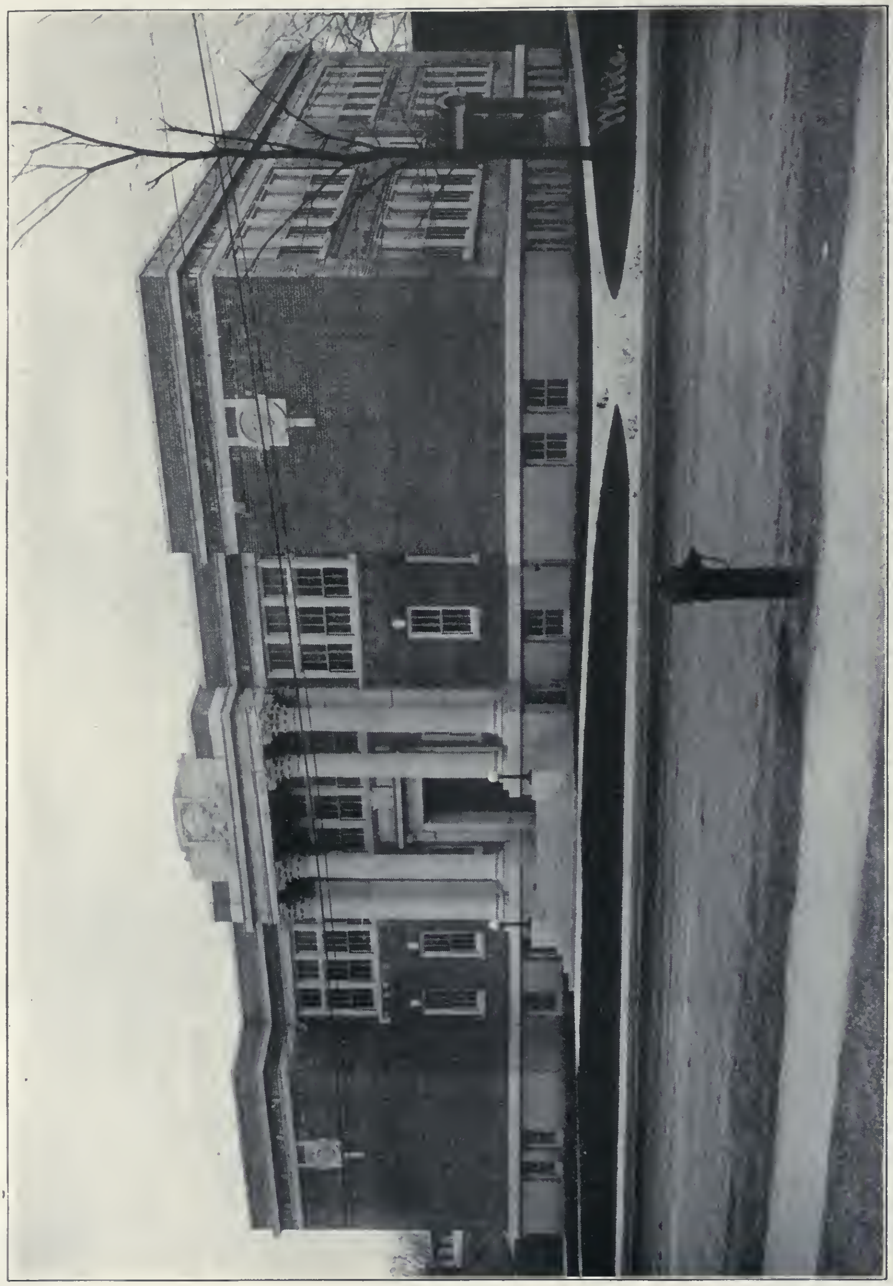


AUDITORIUM, HIGH SCHOOL, EAST AURORA, N. Y. Harris & Merritt, Architects, Buffalo, N. Y.



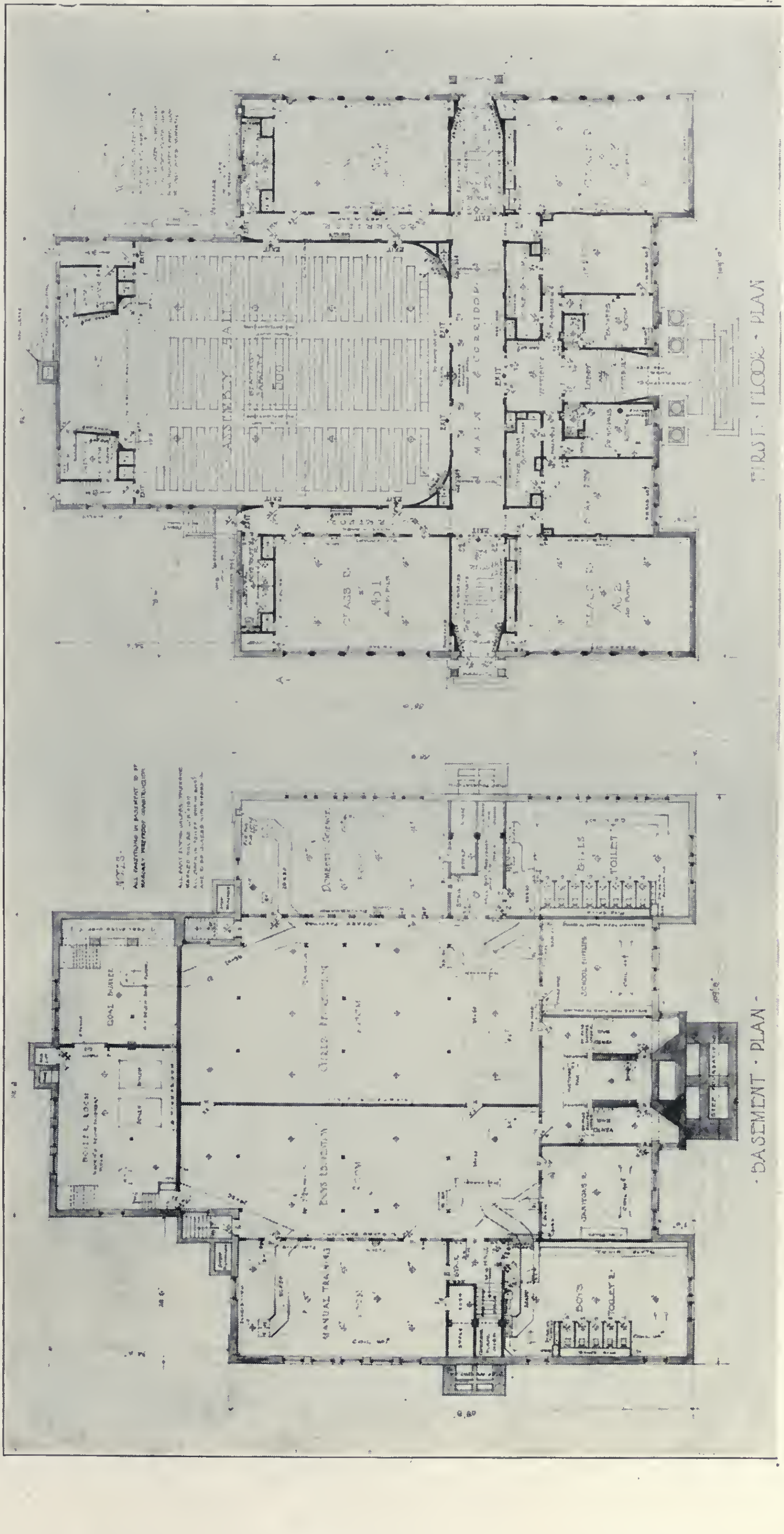
HIGH SCHOOL, EAST AURORA, N. Y. Harris & Merritt, Architects, Buffalo, N. Y.


EAST AURORA HIGH SCHOOL
HARRIS & MERRITT ARCH'TS
BUFFALO N.Y.
FIRST FLOOR PLAN
PRESENT REAR BUILDING
LAV'TY
WARDROBE
TEACHERS ROOM
STORAGE
GRADE ROOM
STAGE
AUDITORIUM 400 SEATS
SECOND FLOOR PLAN
COMMERCIAL DEPARTMENT
TYPEWRITING ROOM
RECITATION ROOM
APPAR ROOM
DARK ROOM
GIRLS LAV'TY
PHYSICAL AND CHEMICAL LABORATORIES
APPAR RM
BALCONY
DRAWING
ACADEMIC STUDY ROOM
GROUND FLOOR PLAN
STOCK ROOM
MANUAL TRAINING
DOMESTIC SCIENCE
AIR INTAKE
BOYS LAVATORY
GIRLS LAVATORY
SICK ROOM
BOYS LOCKERS
GIRLS LOCKERS
CORRIDOR
GYMNASIUM
DOMESTIC ARTS
PRINCIPAL AND BOARD ROOM
VAULT
STORES
LAV.
LIBRARY
BASEMENT PLAN
ELECTRIC HOIST
ASH ROOM
COAL ROOM
BOILER ROOM
ENGINEERS ROOM
PLENUM CHAMBER
DRYING ROOM
BOYS SHOWERS
GIRLS SHOWERS
STORAGE



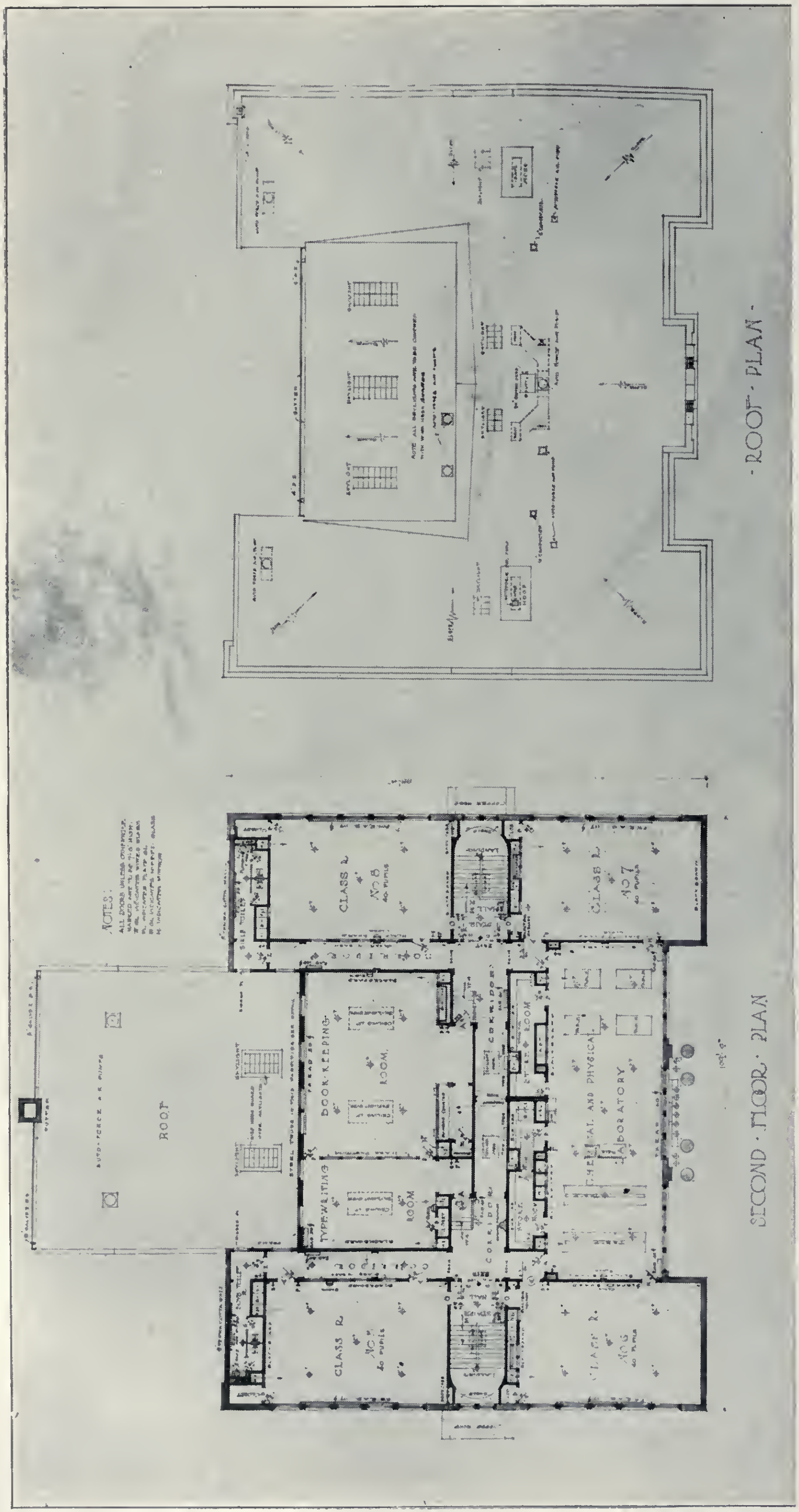
HIGH SCHOOL, BENNINGTON, VT.

Frank Irving Cooper, Architect, Boston, Mass.

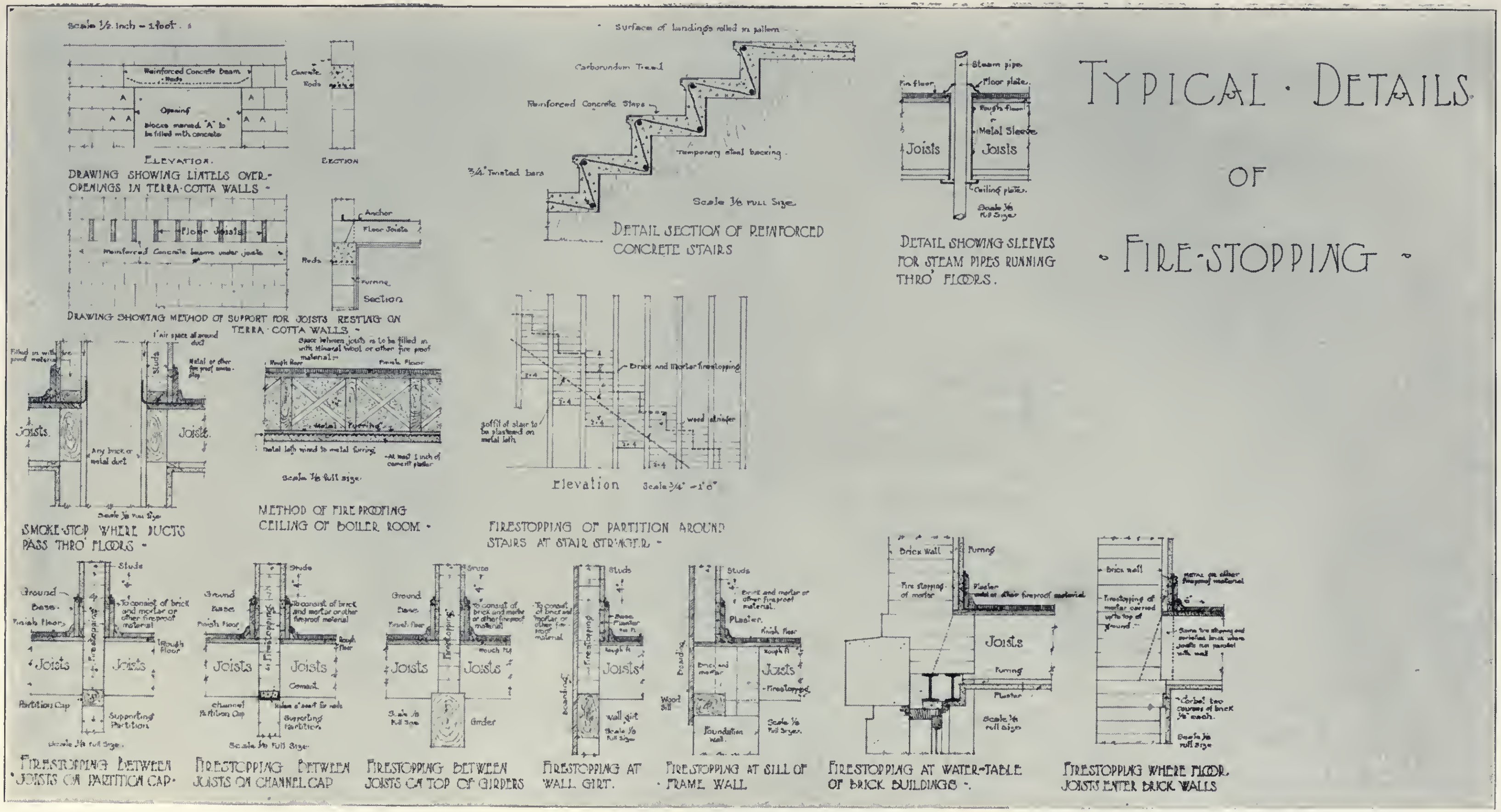

FIRST · FLOOR · PLAN
ASSEMBLY HALL
MAIN CORRIDOR
CORRIDOR
CLASS R.
CLASS R.
BASEMENT · PLAN
NOTES
BOILER ROOM
COAL BUNKER
GIRLS PLAY ROOM
BOYS PLAY ROOM
DOMESTIC SCIENCE
MANUAL TRAINING
GIRLS TOILET
BOYS TOILET
SCHOOL SUPPLIES
JANITORS R.

FLOOR PLANS OF HIGH SCHOOL, BENNINGTON, VT.

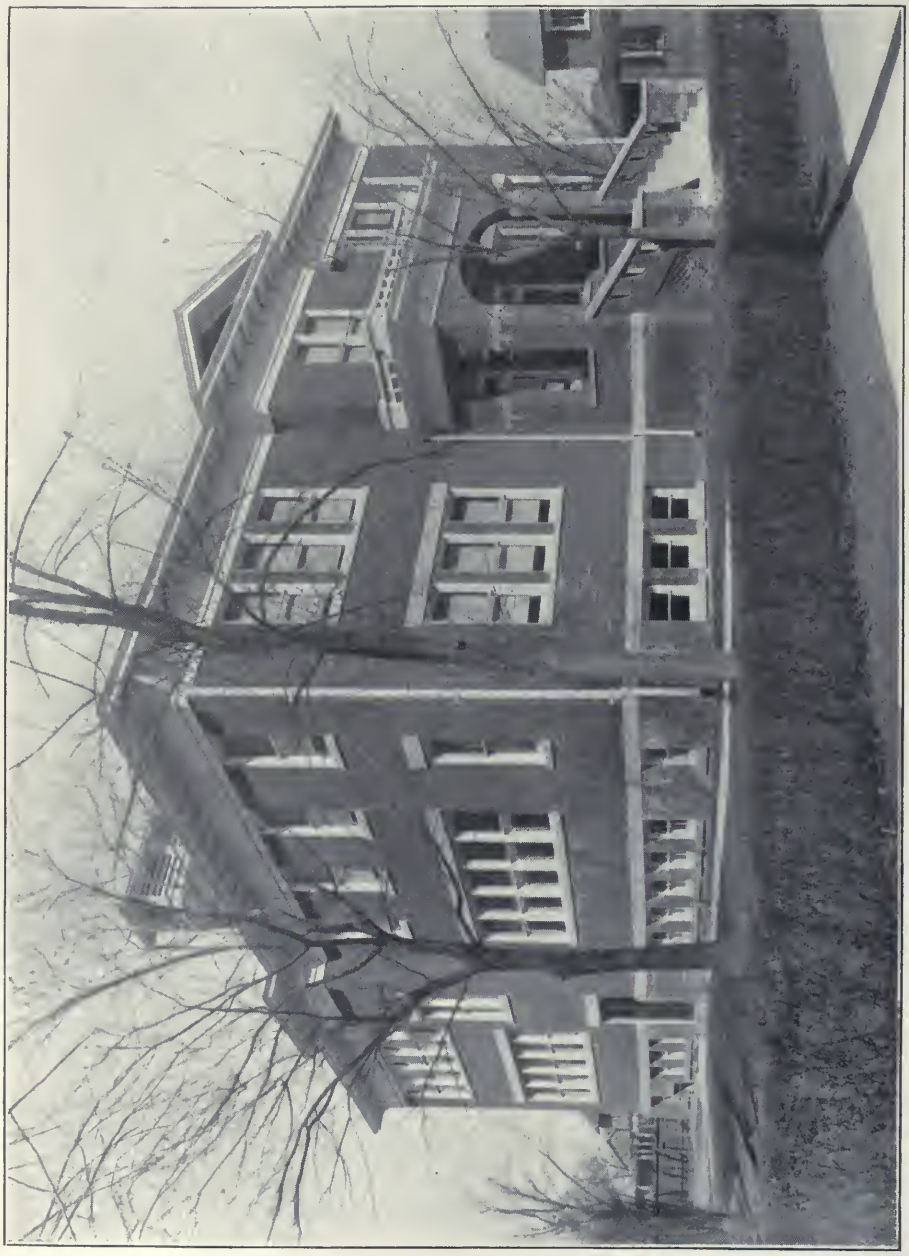
Frank Irving Cooper, Architect, Boston, Mass.


- ROOF · PLAN -
SECOND · FLOOR · PLAN
NOTES:
ROOF
BOOK-KEEPING · ROOM
TYPEWRITING · ROOM
CHEMICAL AND PHYSICAL LABORATORY
CORRIDOR
CLASS R. No 8 40 PUPILS
CLASS R. No 7 40 PUPILS
CLASS R. No 5 40 PUPILS
CLASS R. No 6 40 PUPILS

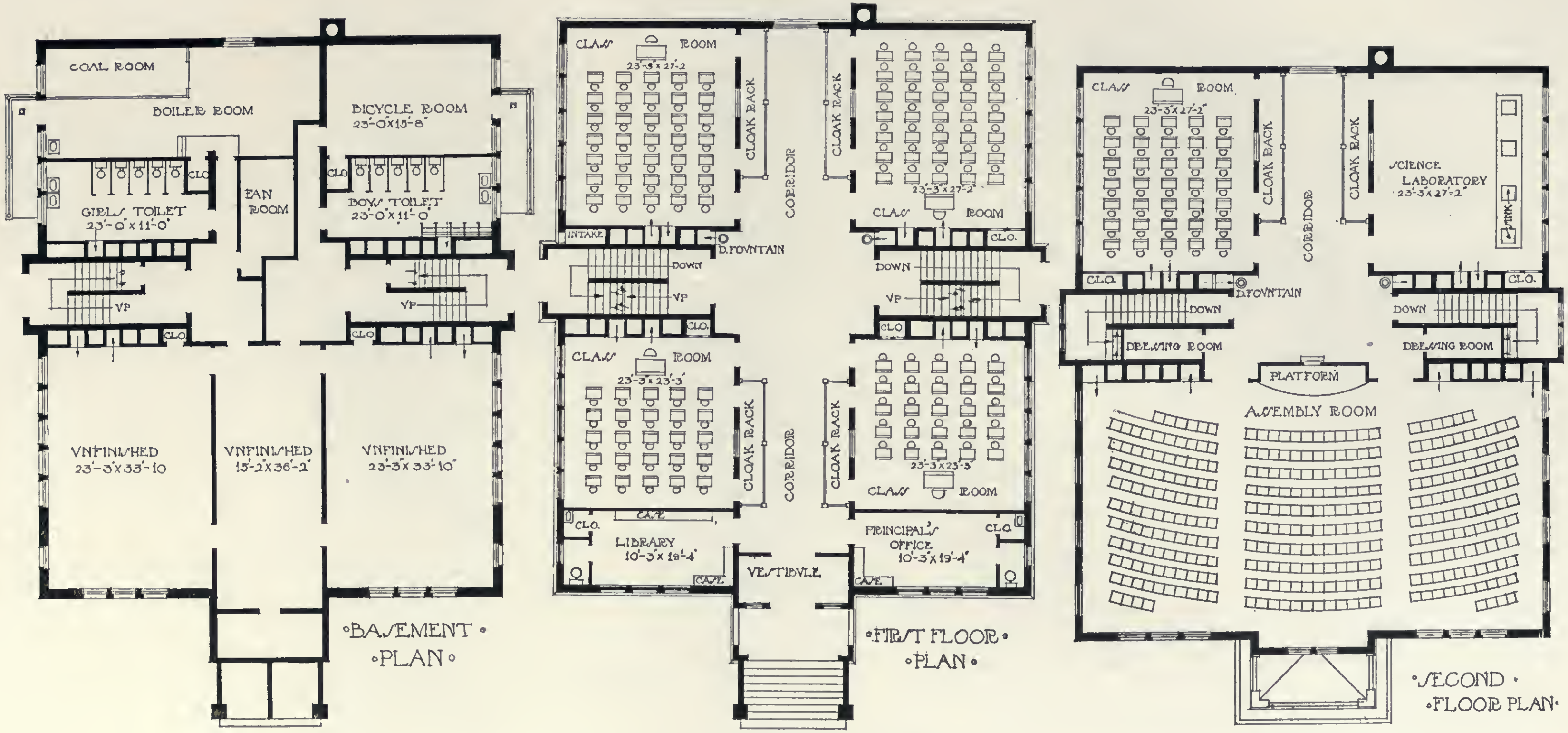
FLOOR PLANS, HIGH SCHOOL, BENNINGTON, VT.


TYPICAL · DETAILS
OF
· FIRE-STOPPING ·
Scale 1/2 inch = 1 foot.
Reinforced Concrete Beam
Opening
Blocks marked "A" to be filled with concrete
ELEVATION.
SECTION
Concrete
Rods
DRAWING SHOWING LINTELS OVER-OPENINGS IN TERRA-COTTA WALLS -
Floor Joists
Reinforced Concrete beams under joists
Anchor
Floor Joists
Rods
Furring
Section
DRAWING SHOWING METHOD OF SUPPORT FOR JOISTS RESTING ON TERRA-COTTA WALLS -
Surface of landings rolled in pattern
Carborundum Tread
Reinforced Concrete Steps
3/4" Twisted bars
Temporary steel backing
Scale 1/8 Full Size
DETAIL SECTION OF REINFORCED CONCRETE STAIRS
Steam pipe
Fin. floor
Floor plate
Rough floor
Metal Sleeve
Joists
Joists
Ceiling plate
Scale 1/8 Full Size
DETAIL SHOWING SLEEVES FOR STEAM PIPES RUNNING THRO' FLOORS.
Filled in with fire-proof material
1" air space all around duct
Studs
Metal or other fire proof smoke-stop
Joists.
Joists.
Any brick or metal duct
Scale 1/8 Full Size
SMOKE-STOP WHERE DUCTS PASS THRO' FLOORS -
Space between joists is to be filled in with Mineral Wool or other fire proof material
Rough floor
Finish Floor
Metal Furring
Metal lath wired to metal furring
At least 1 inch of cement plaster
Scale 1/8 full size
METHOD OF FIRE PROOFING CEILING OF BOILER ROOM -
Brick and mortar firestopping
soffit of stair to be plastered on metal lath
wood stringer
2×4
Elevation Scale 3/4" = 1'0"
FIRESTOPPING OF PARTITION AROUND STAIRS AT STAIR STRINGER -
Studs
Ground
Base
Finish Floor
To consist of brick and mortar or other fireproof material
Rough Floor
Firestopping
Joists
Joists
Partition Cap
Supporting Partition
Scale 1/8 Full Size
FIRESTOPPING BETWEEN JOISTS ON PARTITION CAP ·
Cement
Channel Partition Cap
Supporting Partition
FIRESTOPPING BETWEEN JOISTS ON CHANNEL CAP
Girder
FIRESTOPPING BETWEEN JOISTS ON TOP OF GIRDERS
Boarding
Wall girt
FIRESTOPPING AT WALL GIRT.
Brick and mortar
Plaster
Finish floor
Wood Sill
Foundation Wall
FIRESTOPPING AT SILL OF FRAME WALL
Brick Wall
Fire stopping of mortar
Furring
Plaster
Joists
FIRESTOPPING AT WATER-TABLE OF BRICK BUILDINGS -.
Brick wall
Firestopping of mortar carried up to top of ground
Corbel two courses of brick 1/2" each.
Scale 1/8 Full Size
FIRESTOPPING WHERE FLOOR JOISTS ENTER BRICK WALLS

TYPICAL DETAILS OF FIRE STOPPING, HIGH SCHOOL, BENNINGTON, VT.

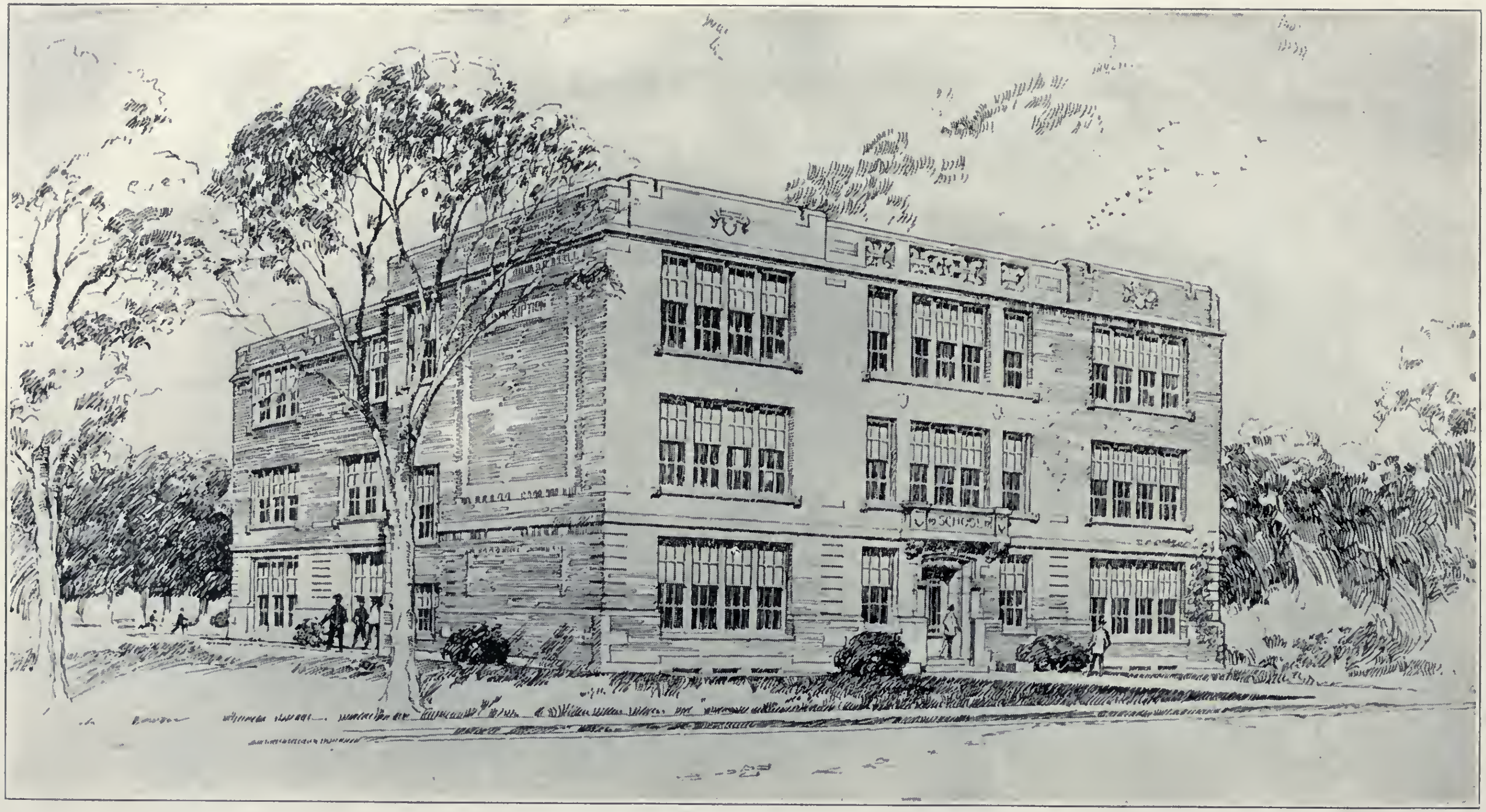


HIGH SCHOOL, MANASQUAN, N. J.
Clinton B. Cook, Architect, Asbury Park, N. J.


COAL ROOM
BOILER ROOM
BICYCLE ROOM 23'-0"x15'-8"
GIRLS TOILET 23'-0"x11'-0"
FAN ROOM
BOYS TOILET 23'-0"x11'-0"
CLO
VP
VNFINISHED 23'-3"x33'-10
VNFINISHED 15'-2"x36'-2"
VNFINISHED 23'-3"x33'-10"
BASEMENT PLAN
CLASS ROOM 23'-3"x27'-2
CLASS ROOM 23'-3"x23'-3"
CLOAK RACK
CORRIDOR
INTAKE
D. FOVNTAIN
DOWN
LIBRARY 10'-3"x19'-4'
PRINCIPAL'S OFFICE 10'-3"x19'-4'
CASE
VESTIBVLE
FIRST FLOOR PLAN
SCIENCE LABORATORY 23'-3"x27'-2"
SINK
DRESSING ROOM
PLATFORM
ASSEMBLY ROOM
SECOND FLOOR PLAN

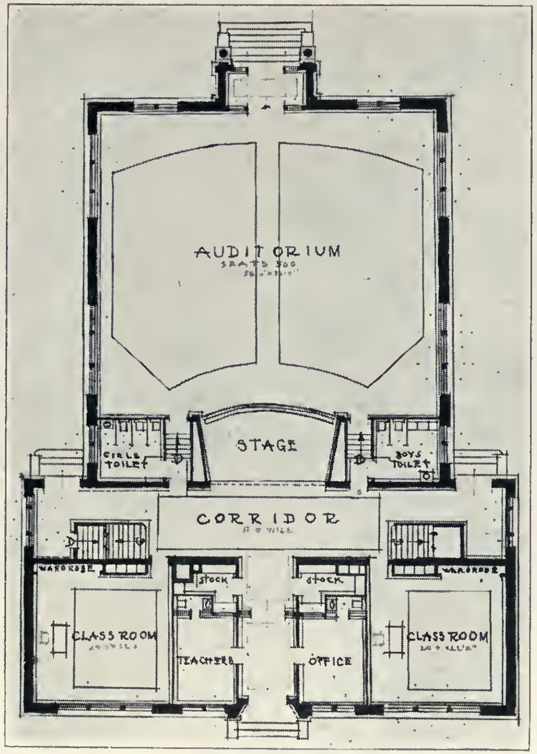
FLOOR PLANS, HIGH SCHOOL, MANASQUAN, N. J.

Clinton B. Cook, Architect, Asbury Park, N. J.

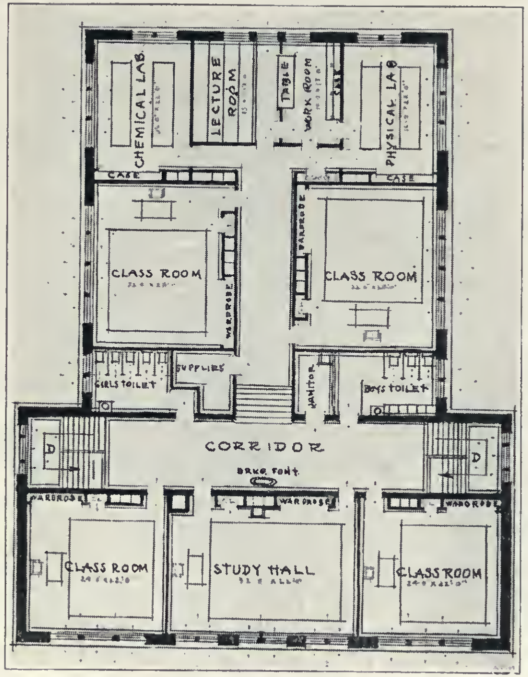


HIGH SCHOOL, SHARPSBURG, PA.

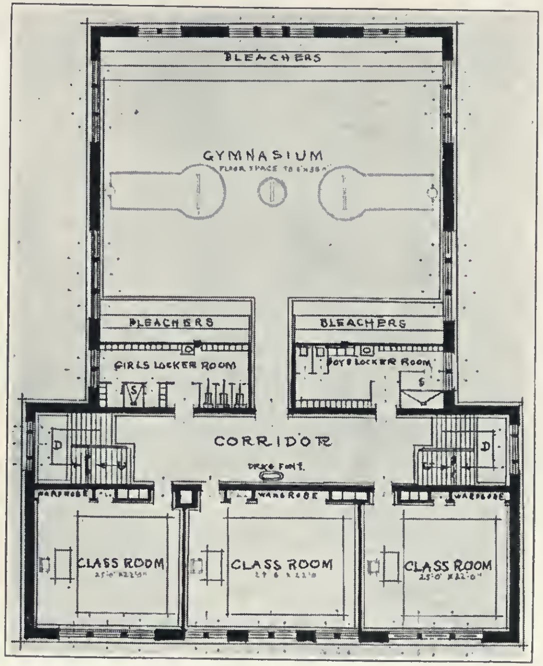
C. C. & A. L. Thayer, Architects, New Castle, Pa.


AUDITORIUM
SEATS 500
STAGE
GIRLS TOILET
BOYS TOILET
CORRIDOR
WARDROBE
WARDROBE
STOCK
STOCK
CLASS ROOM
TEACHERS
OFFICE
CLASS ROOM

FIRST FLOOR PLAN.


CHEMICAL LAB.
LECTURE ROOM
TABLE
WORK ROOM
CASE
PHYSICAL LAB
CASE
CASE
CLASS ROOM
WARDROBE
WARDROBE
CLASS ROOM
GIRLS TOILET
SUPPLIES
JANITOR
BOYS TOILET
D
D
CORRIDOR
DRKG. FONT.
WARDROBE
WARDROBE
WARDROBE
CLASS ROOM
STUDY HALL
CLASS ROOM

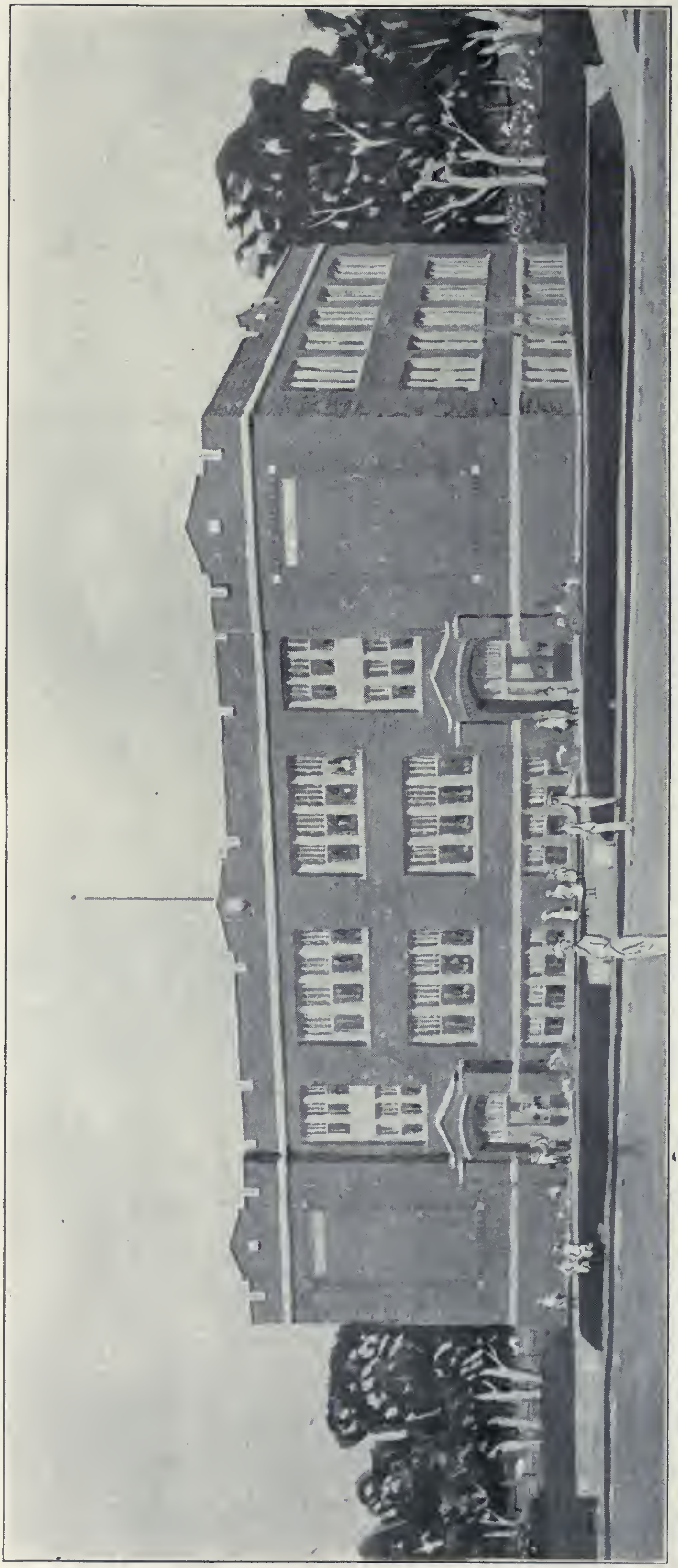
SECOND FLOOR PLAN.


BLEACHERS
GYMNASIUM
BLEACHERS
BLEACHERS
GIRLS LOCKER ROOM
BOYS LOCKER ROOM
D
D
CORRIDOR
DRKG. FONT.
WARDROBE
WARDROBE
WARDROBE
CLASS ROOM
CLASS ROOM
CLASS ROOM

THIRD FLOOR PLAN.

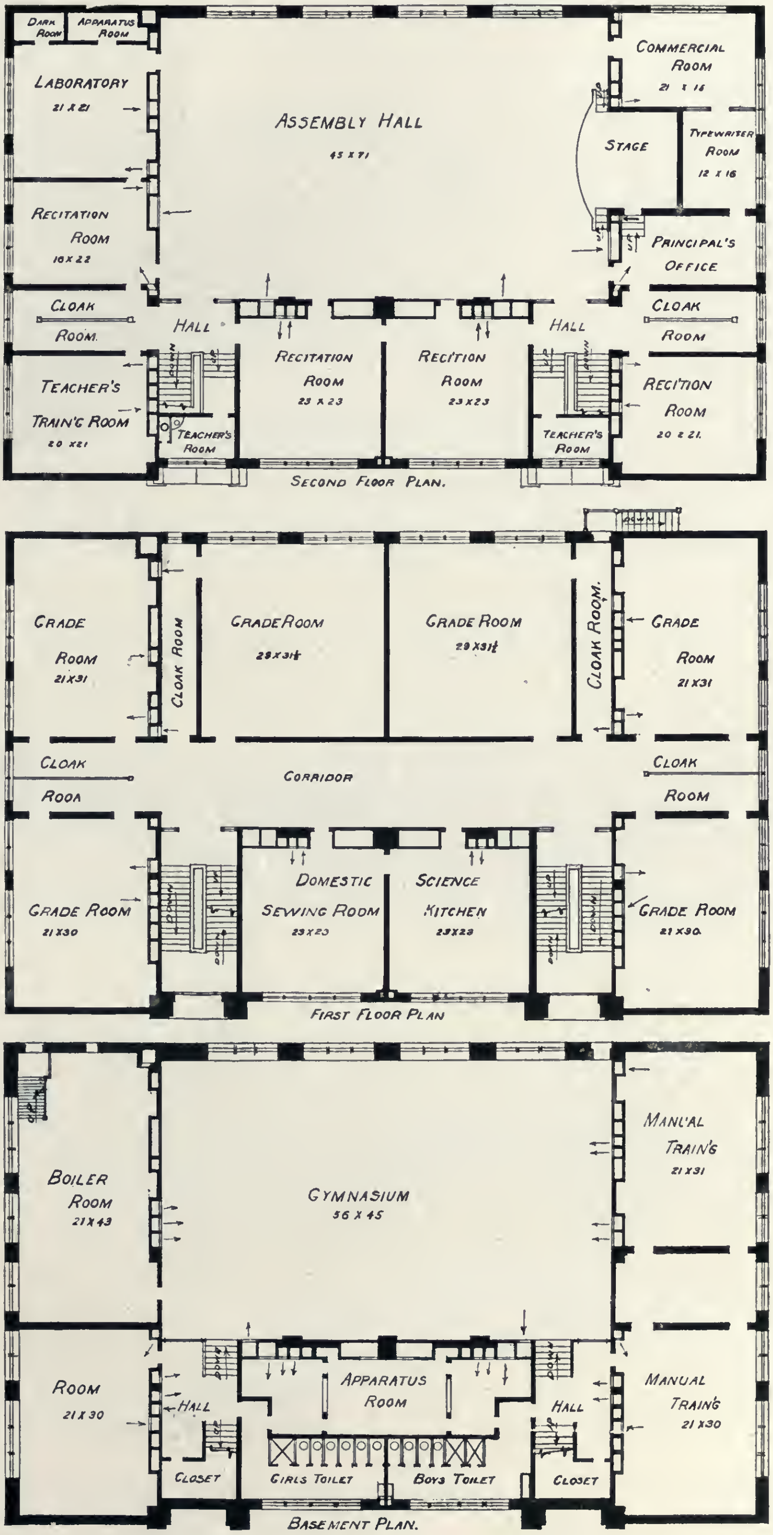
FLOOR PLANS, HIGH SCHOOL, SHARPSBURG, PA.

C. C. & A. L. Thayer, Architects, New Castle, Pa.

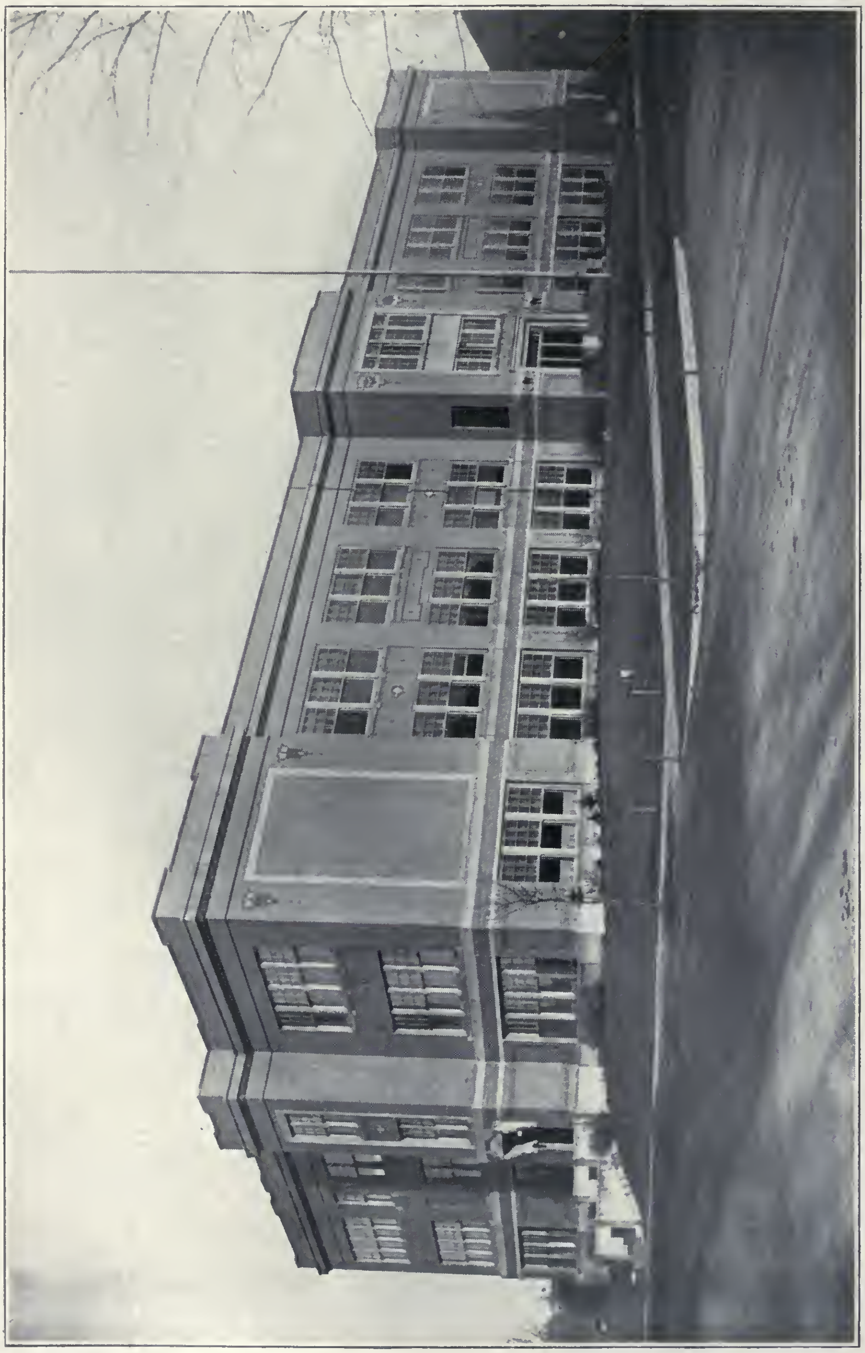


HIGH SCHOOL, ARCADIA, WIS.

Parkinson & Dockendorff, Architects, La Crosse, Wis.

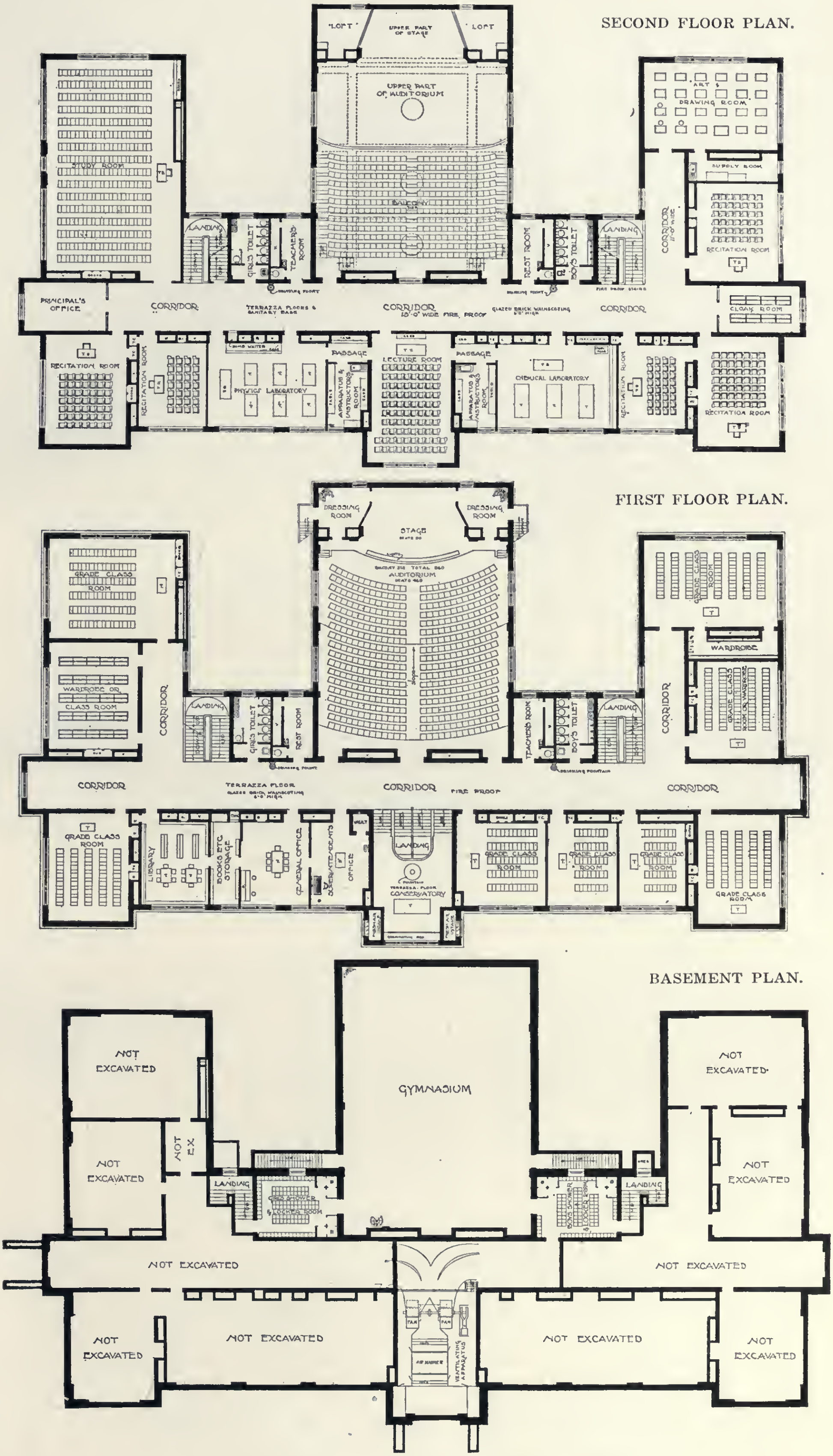

Dark Room
Apparatus Room
Laboratory 21 x 21
Assembly Hall 45 x 71
Commercial Room 21 x 16
Stage
Typewriter Room 12 x 16
Recitation Room 16 x 22
Principal's Office
Cloak Room
Hall
Recitation Room 23 x 23
Recition Room 23 x 23
Hall
Cloak Room
Teacher's Train'g Room 20 x 21
Teacher's Room
Teacher's Room
Recition Room 20 x 21
Down
Second Floor Plan.
Down
Grade Room 21 x 31
Cloak Room
Grade Room 23 x 31½
Grade Room 23 x 31½
Cloak Room.
Grade Room 21 x 31
Cloak Rooa
Corridor
Cloak Room
Grade Room 21 x 30
Domestic Sewing Room 23 x 23
Science Kitchen 23 x 23
Grade Room 21 x 30
Down
Down
First Floor Plan
Boiler Room 21 x 43
Gymnasium 56 x 45
Manual Train'g 21 x 31
Room 21 x 30
Hall
Apparatus Room
Hall
Manual Traing 21 x 30
Down
Closet
Girls Toilet
Boys Toilet
Closet
Basement Plan.

FLOOR PLANS, HIGH SCHOOL, ARCADIA, WIS.
Parkinson & Dockendorff, Architects, La Crosse, Wis.



HIGH SCHOOL, CROOKSTON, MINN.

Bert D. Keck, Architect, Crookston, Minn.



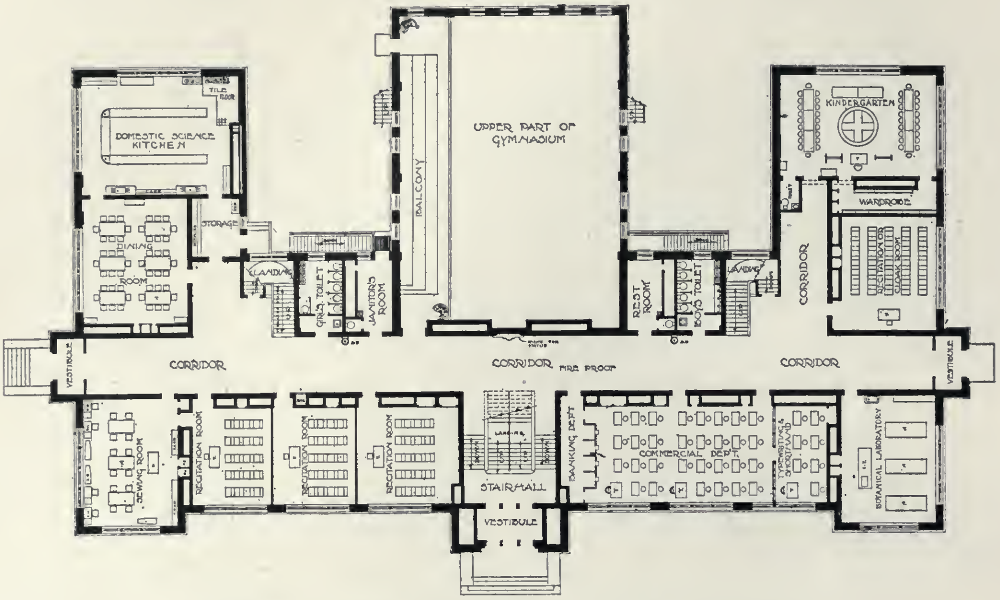
SECOND FLOOR PLAN.

FIRST FLOOR PLAN.

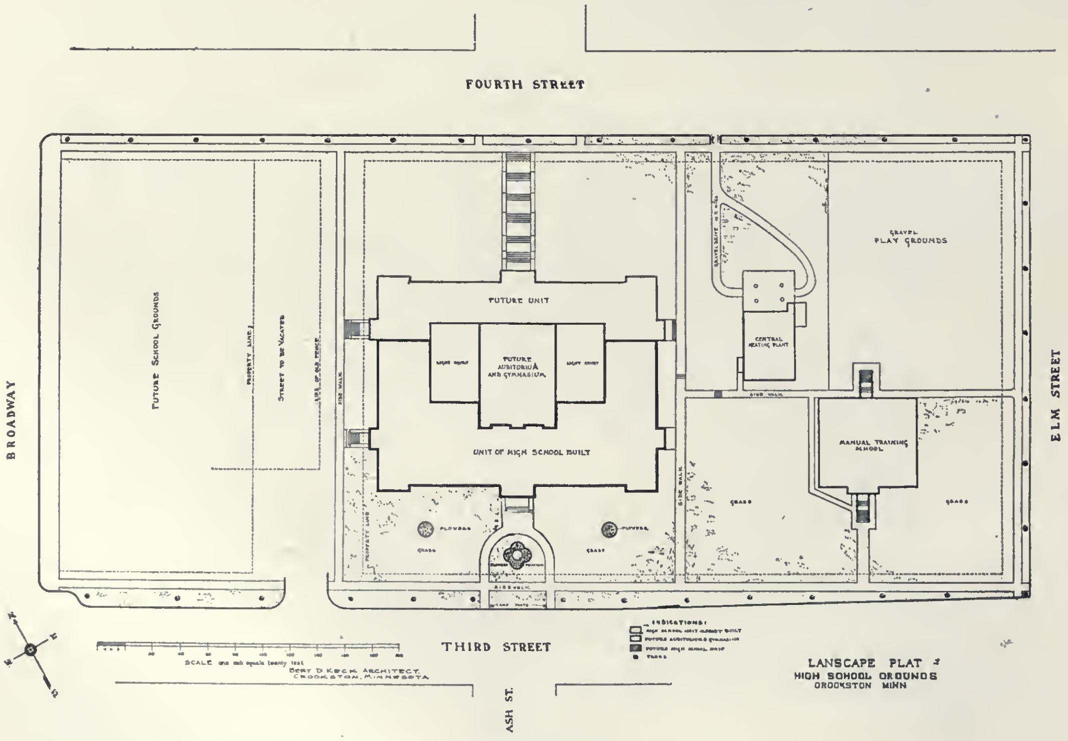
BASEMENT PLAN.

LOFT
UPPER PART OF STAGE
LOFT
UPPER PART OF AUDITORIUM
ART & DRAWING ROOM
STUDY ROOM
BALCONY
SUPPLY ROOM
RECITATION ROOM
LANDING
GIRLS TOILET
TEACHERS ROOM
REST ROOM
BOYS TOILET
LANDING
CORRIDOR 11'-0" WIDE
PRINCIPAL'S OFFICE
CORRIDOR
TERRAZZA FLOORS & SANITARY BASE
CORRIDOR 13'-0" WIDE FIRE PROOF
GLAZED BRICK WAINSCOTING 6'-0" HIGH
CORRIDOR
CLOAK ROOM
RECITATION ROOM
RECITATION ROOM
PHYSICS LABORATORY
PASSAGE
APPARATUS & INSTRUCTORS ROOM
LECTURE ROOM
PASSAGE
APPARATUS & INSTRUCTORS ROOM
CHEMICAL LABORATORY
RECITATION ROOM
RECITATION ROOM
DRESSING ROOM
STAGE
DRESSING ROOM
AUDITORIUM
GRADE CLASS ROOM
GRADE CLASS ROOM
WARDROBE
WARDROBE OR CLASS ROOM
CORRIDOR
LANDING
GIRLS TOILET
REST ROOM
TEACHERS ROOM
BOYS TOILET
LANDING
CORRIDOR
GRADE CLASS ROOM OR WARDROBE
CORRIDOR
TERRAZZA FLOOR
CORRIDOR
FIRE PROOF
CORRIDOR
GRADE CLASS ROOM
LIBRARY
BOOKS ETC STORAGE
GENERAL OFFICE
SUPERINTENDENTS OFFICE
LANDING
FOUNTAIN
TERRAZZA FLOOR
CONSERVATORY
GRADE CLASS ROOM
GRADE CLASS ROOM
GRADE CLASS ROOM
GRADE CLASS ROOM
NOT EXCAVATED
GYMNASIUM
NOT EXCAVATED
NOT EXCAVATED
NOT EX
NOT EXCAVATED
LANDING
GIRLS SHOWER & LOCKER ROOM
BOYS SHOWER & LOCKER ROOM
LANDING
NOT EXCAVATED
NOT EXCAVATED
FAN
FAN
AIR WASHER
VENTILATING APPARATUS
NOT EXCAVATED
NOT EXCAVATED
NOT EXCAVATED
NOT EXCAVATED

FLOOR PLANS, HIGH SCHOOL, CROOKSTON, MINN.

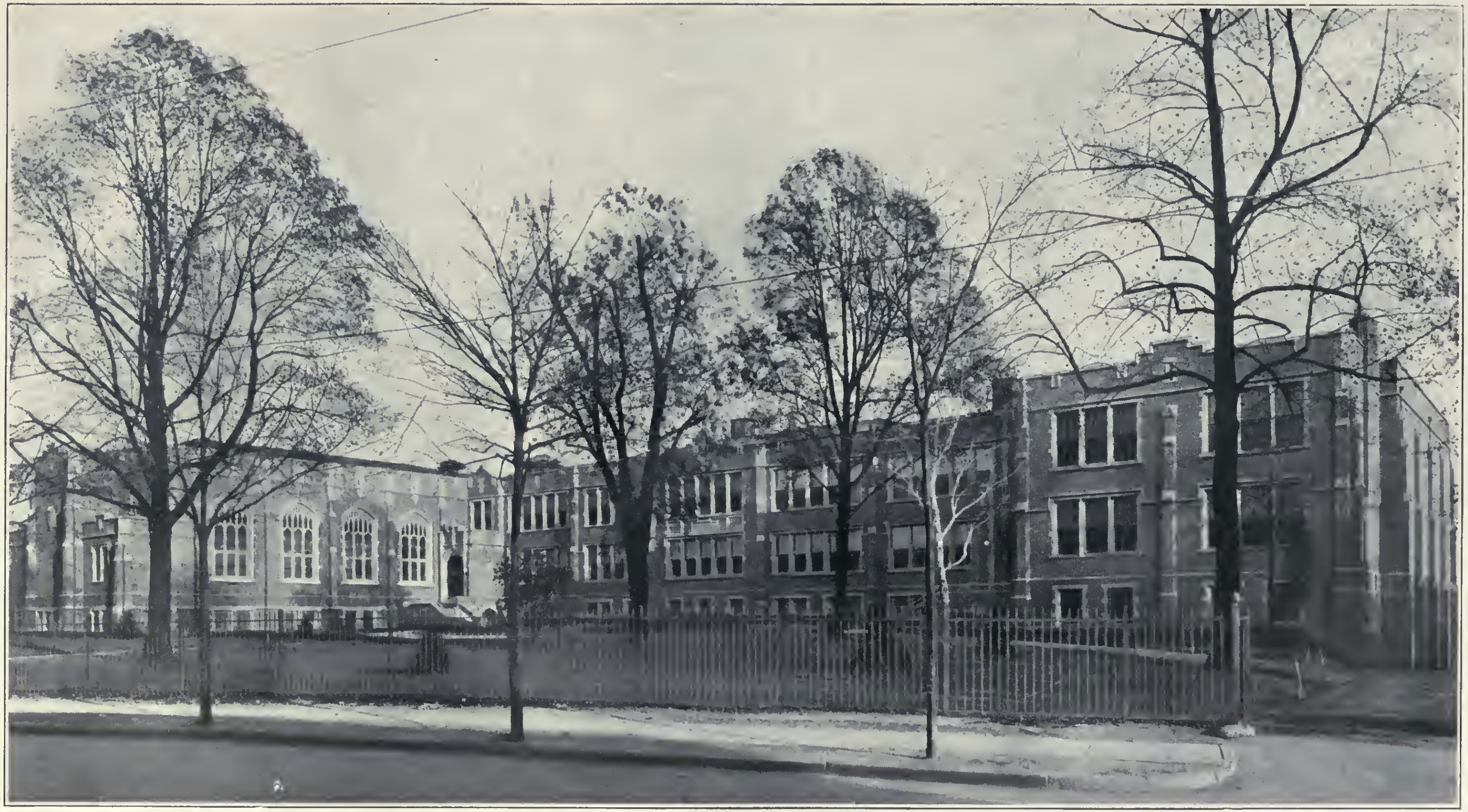

DOMESTIC SCIENCE KITCHEN
TILE FLOOR
DINING ROOM
STORAGE
LANDING
GIRLS TOILET
JANITOR'S ROOM
BALCONY
UPPER PART OF GYMNASIUM
REST ROOM
BOYS TOILET
LANDING
CORRIDOR
KINDERGARTEN
WARDROBE
RECITATION OR STUDY ROOM
VESTIBULE
CORRIDOR
CORRIDOR FIRE PROOF
CORRIDOR
VESTIBULE
SEWING ROOM
RECITATION ROOM
RECITATION ROOM
RECITATION ROOM
LANDING
STAIRHALL
BANKING DEPT
COMMERCIAL DEPT.
TYPEWRITING & SHORTHAND
BOTANICAL LABORATORY
VESTIBULE

GROUND FLOOR PLAN, HIGH SCHOOL, CROOKSTON, MINN.


FOURTH STREET
BROADWAY
ELM STREET
THIRD STREET
ASH ST.
FUTURE SCHOOL GROUNDS
PROPERTY LINE
STREET TO BE VACATED
FUTURE UNIT
FUTURE AUDITORIUM AND GYMNASIUM
LIGHT COURT
LIGHT COURT
UNIT OF HIGH SCHOOL BUILT
FLOWERS
GRASS
GRASS
FLOWERS
SIDE WALK
CENTRAL HEATING PLANT
GRAVEL PLAY GROUNDS
MANUAL TRAINING SCHOOL
GRASS
GRASS
INDICATIONS:
HIGH SCHOOL UNIT ALREADY BUILT
FUTURE AUDITORIUM & GYMNASIUM
FUTURE HIGH SCHOOL UNIT
TREES
SCALE one inch equals twenty feet
BERT D KECK ARCHITECT.
CROOKSTON, MINNESOTA
LANSCAPE PLAT
HIGH SCHOOL GROUNDS
CROOKSTON MINN
N
E
S
W

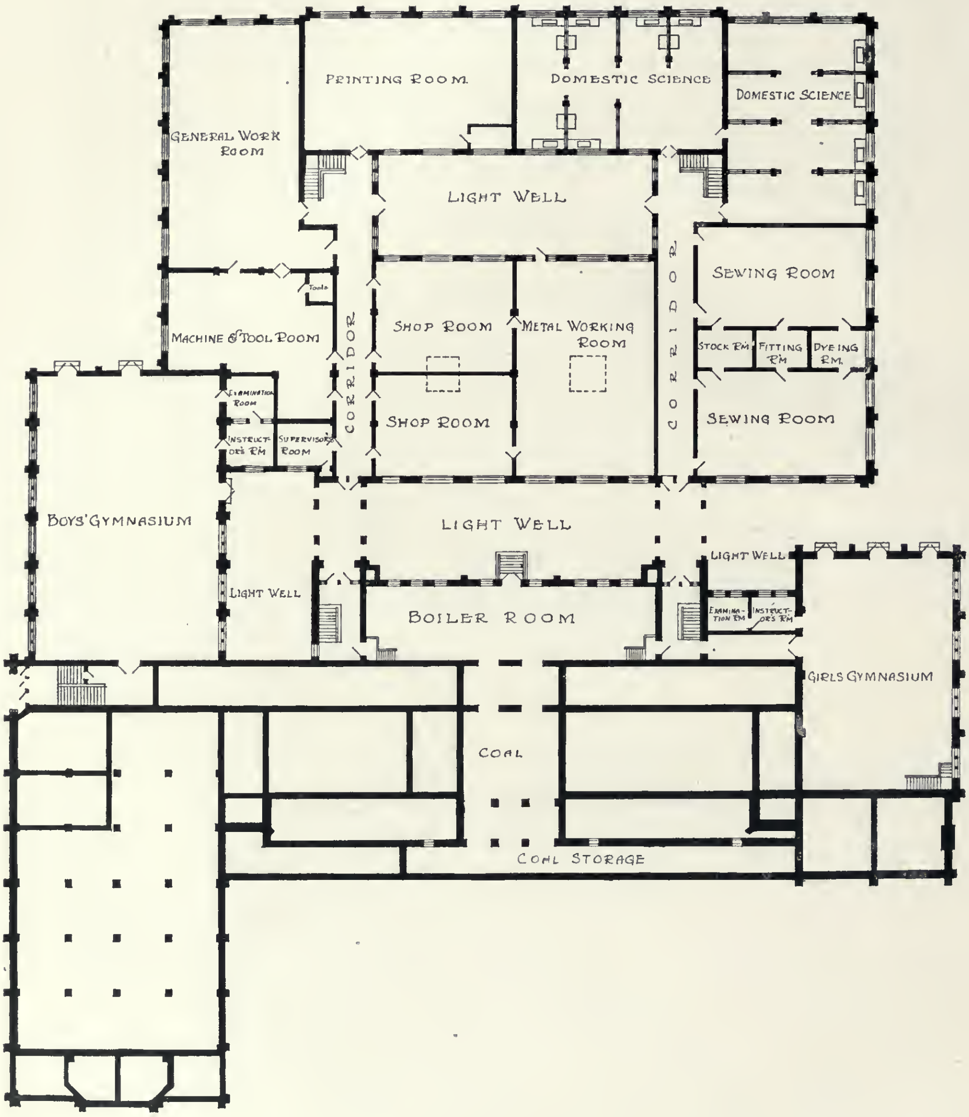
PLAT PLAN OF HIGH SCHOOL GROUP, CROOKSTON, MINN.

Bert D. Keck, Architect, Crookston, Minn.



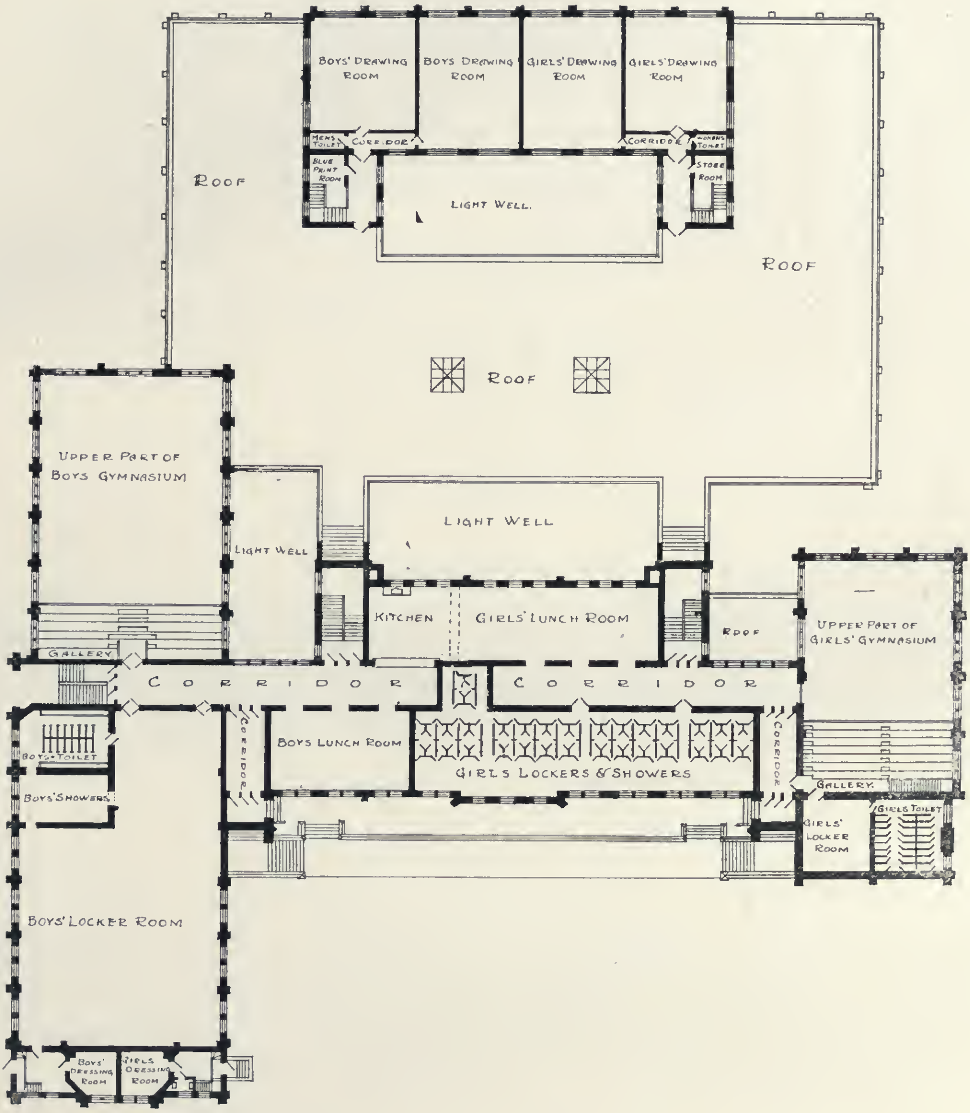
JUNIOR HIGH SCHOOL, TRENTON, N. J.

W. A. Poland, Architect, Trenton.


PRINTING ROOM.
DOMESTIC SCIENCE
DOMESTIC SCIENCE
GENERAL WORK ROOM
LIGHT WELL
Tools
MACHINE & TOOL ROOM
CORRIDOR
SHOP ROOM
METAL WORKING ROOM
CORRIDOR
SEWING ROOM
STOCK RM
FITTING RM
DYEING RM.
SEWING ROOM
EXAMINATION ROOM
INSTRUCTOR'S RM
SUPERVISOR'S ROOM
SHOP ROOM
BOYS' GYMNASIUM
LIGHT WELL
LIGHT WELL
LIGHT WELL
BOILER ROOM
EXAMINATION RM
INSTRUCTOR'S RM
GIRLS GYMNASIUM
COAL
COAL STORAGE

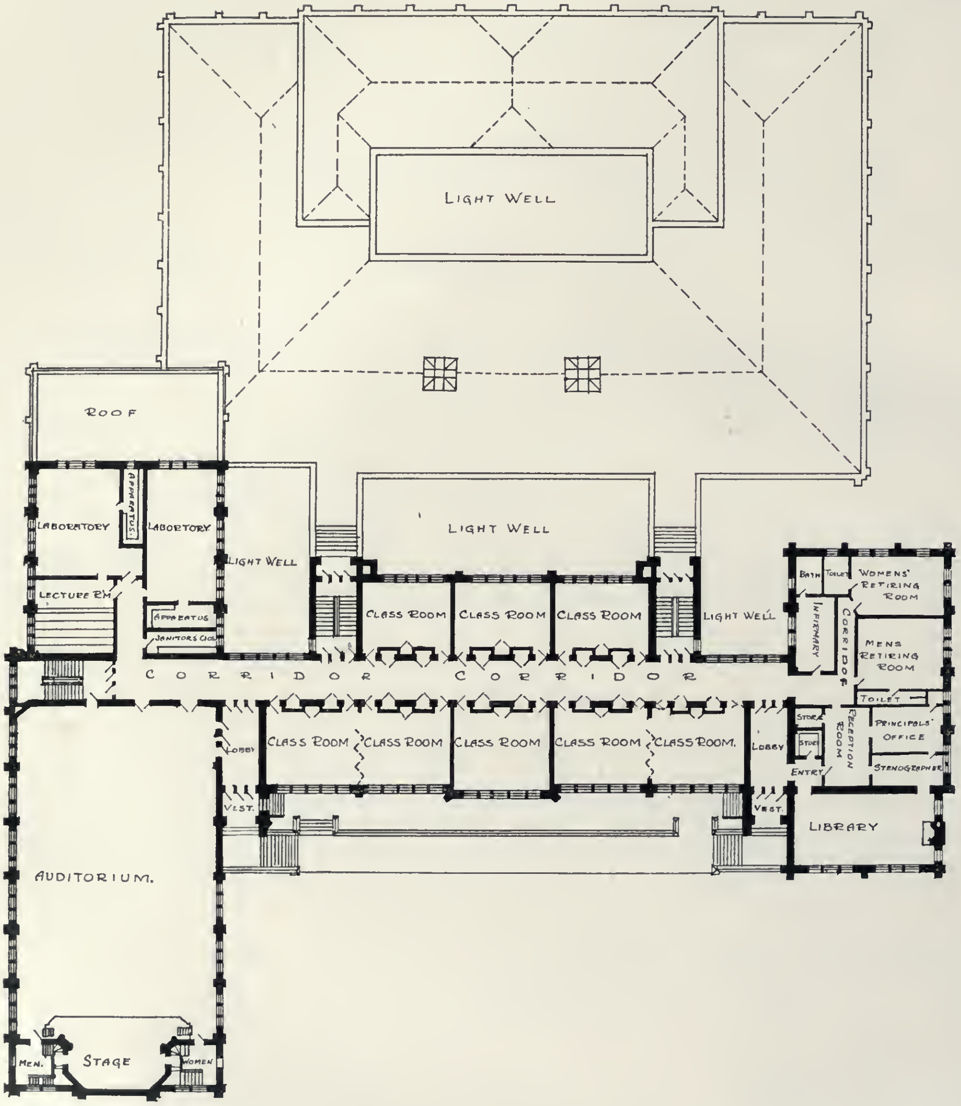
SUB-BASEMENT PLAN, JUNIOR HIGH SCHOOL, TRENTON, N. J.

W. A. Poland, Architect, Trenton.


BOYS' DRAWING ROOM
BOYS DRAWING ROOM
GIRLS' DRAWING ROOM
GIRLS' DRAWING ROOM
MENS TOILET
CORRIDOR
CORRIDOR
WOMENS TOILET
BLUE PRINT ROOM
STORE ROOM
LIGHT WELL.
ROOF
ROOF
ROOF
UPPER PART OF BOYS GYMNASIUM
LIGHT WELL
LIGHT WELL
KITCHEN
GIRLS' LUNCH ROOM
ROOF
UPPER PART OF GIRLS' GYMNASIUM
GALLERY
CORRIDOR
CORRIDOR
BOYS-TOILET
CORRIDOR
BOYS LUNCH ROOM
GIRLS LOCKERS & SHOWERS
CORRIDOR
GALLERY
BOYS' SHOWERS
GIRLS' LOCKER ROOM
GIRLS TOILET
BOYS' LOCKER ROOM
BOYS' DRESSING ROOM
GIRLS DRESSING ROOM

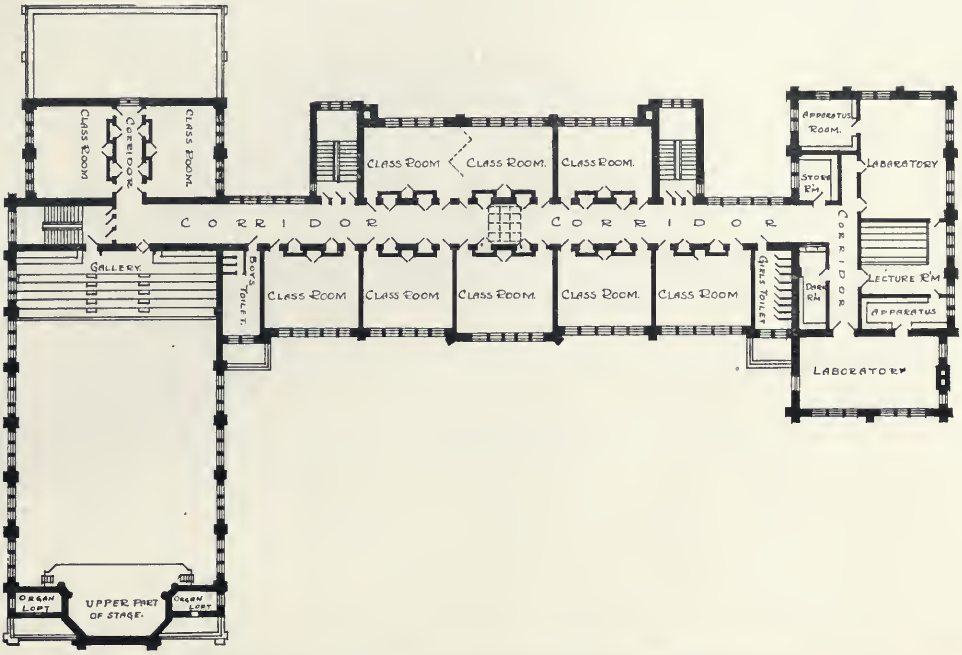
BASEMENT FLOOR PLAN, JUNIOR HIGH SCHOOL, TRENTON, N. J.

W. A. Poland, Architect, Trenton.

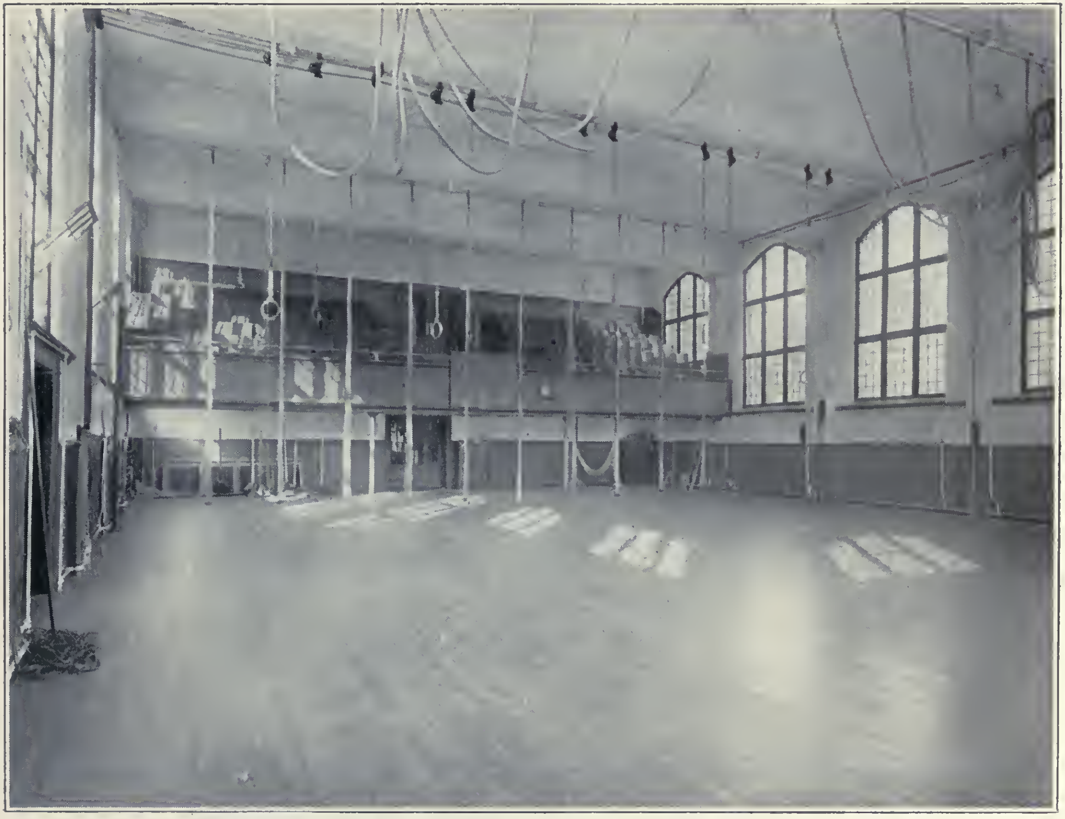

LIGHT WELL
ROOF
LABORATORY
APPARATUS
LABORATORY
LECTURE RM
APPARATUS
JANITORS CLO.
LIGHT WELL
LIGHT WELL
CLASS ROOM
CLASS ROOM
CLASS ROOM
LIGHT WELL
BATH
TOILET
WOMENS' RETIRING ROOM
INFIRMARY
CORRIDOR
MENS RETIRING ROOM
TOILET
CORRIDOR
CORRIDOR
LOBBY
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM.
LOBBY
STORE
STORE
RECEPTION ROOM
PRINCIPALS' OFFICE
ENTRY
STENOGRAPHER
VEST.
VEST.
LIBRARY
AUDITORIUM.
MEN.
STAGE
WOMEN

FIRST FLOOR PLAN, JUNIOR HIGH SCHOOL, TRENTON, N. J.

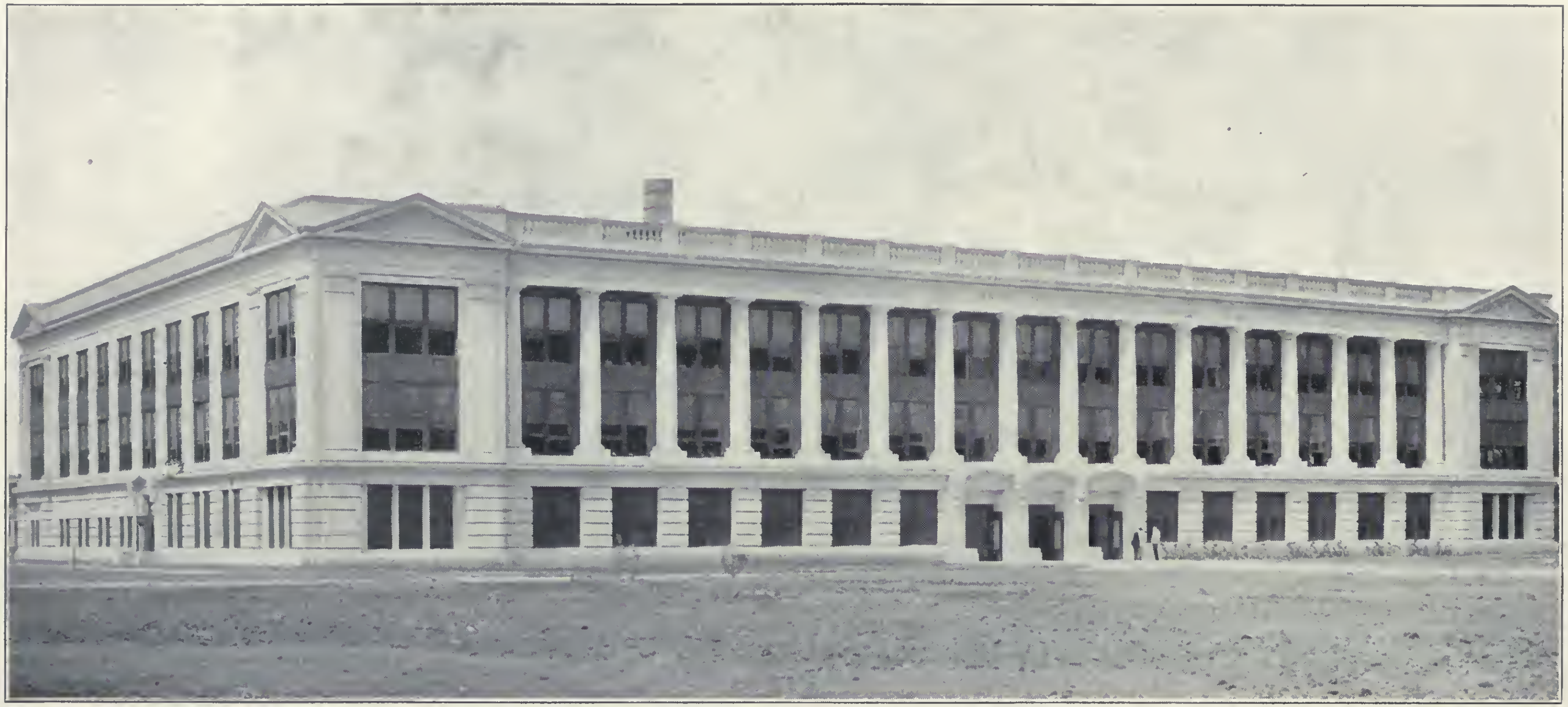
W. A. Poland, Architect, Trenton.


CLASS ROOM
CORRIDOR
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
APPARATUS ROOM
LABORATORY
STORE R'M
CORRIDOR
CORRIDOR
CORRIDOR
GALLERY
BOYS' TOILET
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
CLASS ROOM
GIRLS' TOILET
DARK R'M
LECTURE R'M
APPARATUS
LABORATORY
ORGAN LOFT
UPPER PART OF STAGE
ORGAN LOFT

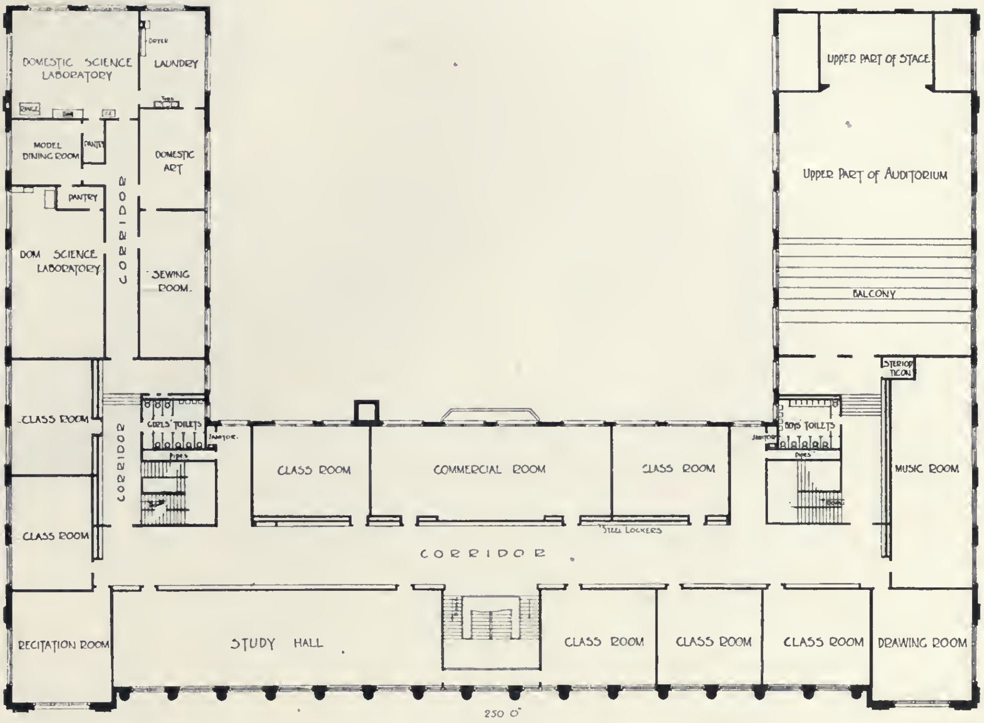
SECOND FLOOR PLAN, JUNIOR HIGH SCHOOL, TRENTON, N. J.



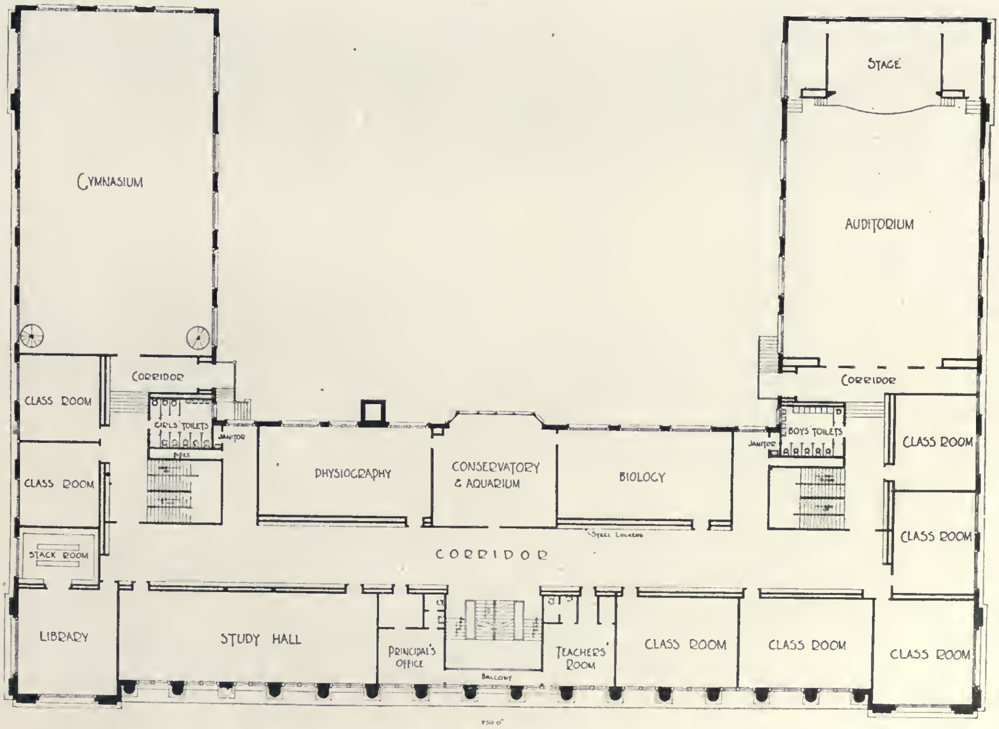
GYMNASIUM, JUNIOR HIGH SCHOOL, TRENTON, N. J.
W. A. Poland, Architect, Trenton.



SOUTH END JUNIOR HIGH SCHOOL, HOUSTON, TEX.
Layton & Smith, Architects, Oklahoma City, Okla.

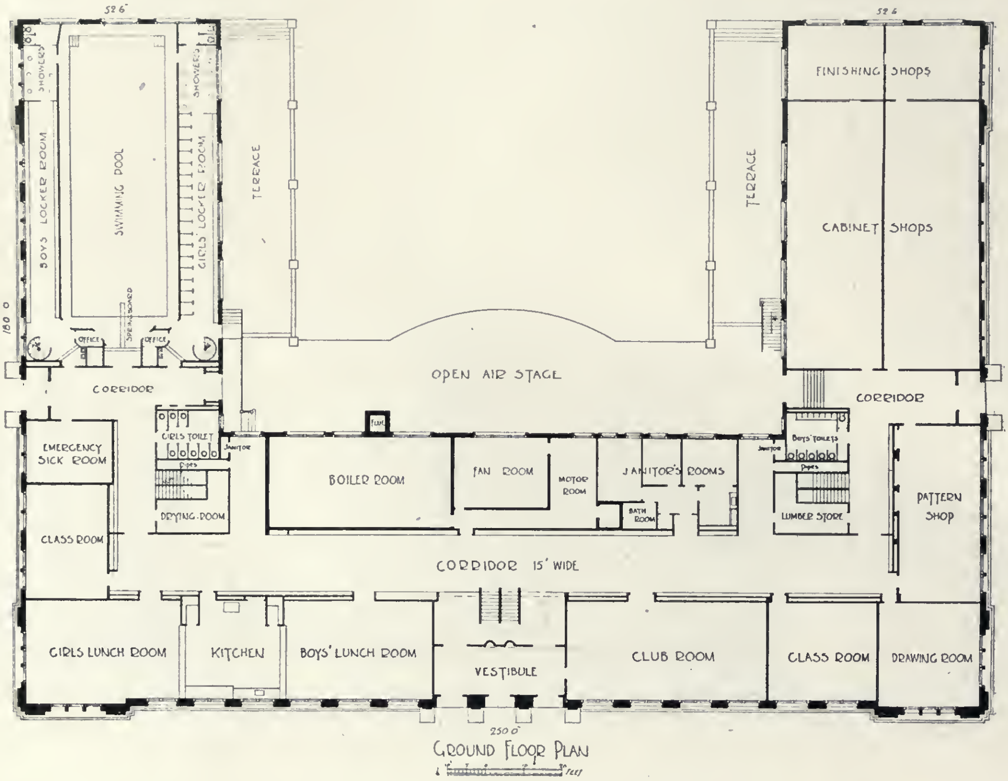

DOMESTIC SCIENCE LABORATORY
LAUNDRY
MODEL DINING ROOM
PANTRY
DOMESTIC ART
PANTRY
DOM SCIENCE LABORATORY
SEWING ROOM
CORRIDOR
CLASS ROOM
CLASS ROOM
CORRIDOR
GIRLS' TOILETS
JANITOR
CLASS ROOM
COMMERCIAL ROOM
CLASS ROOM
STEEL LOCKERS
JANITOR
BOYS' TOILETS
UPPER PART OF STAGE
UPPER PART OF AUDITORIUM
BALCONY
STERIOPTICON
MUSIC ROOM
CORRIDOR
RECITATION ROOM
STUDY HALL
CLASS ROOM
CLASS ROOM
CLASS ROOM
DRAWING ROOM
250 0"

SECOND FLOOR PLAN


GYMNASIUM
STAGE
AUDITORIUM
CLASS ROOM
CORRIDOR
CORRIDOR
CLASS ROOM
GIRLS' TOILETS
JANITOR
PHYSIOGRAPHY
CONSERVATORY & AQUARIUM
BIOLOGY
JANITOR
BOYS' TOILETS
CLASS ROOM
CLASS ROOM
STEEL LOCKERS
CORRIDOR
STACK ROOM
LIBRARY
STUDY HALL
PRINCIPAL'S OFFICE
TEACHERS' ROOM
BALCONY
CLASS ROOM
CLASS ROOM
CLASS ROOM
250 0"

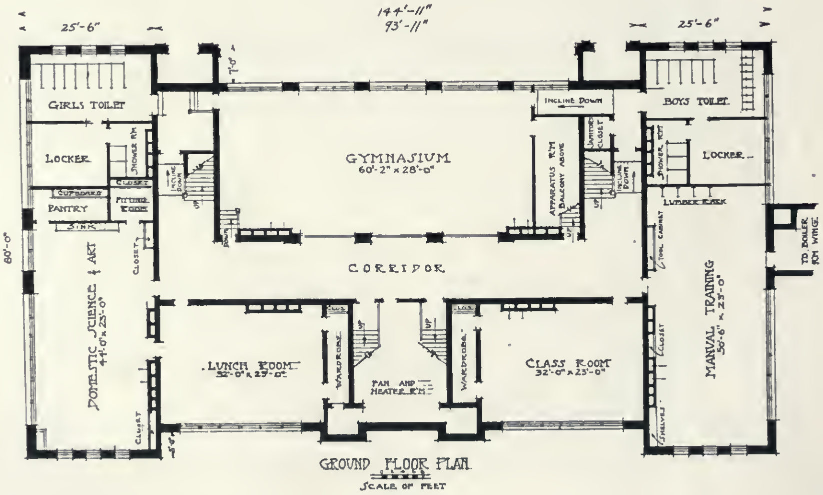
FIRST FLOOR PLAN

FLOOR PLANS, SOUTH END JUNIOR HIGH SCHOOL, HOUSTON, TEX.
Layton & Smith, Architects, Oklahoma City, Okla.


52 6
180 0
SHOWERS
BOYS LOCKER ROOM
SWIMMING POOL
SPRING BOARD
GIRLS LOCKER ROOM
SHOWERS
OFFICE
OFFICE
TERRACE
CORRIDOR
EMERGENCY SICK ROOM
GIRLS TOILET
JANITOR
PIPES
DRYING ROOM
CLASS ROOM
OPEN AIR STAGE
FLUE
BOILER ROOM
FAN ROOM
MOTOR ROOM
JANITOR'S ROOMS
BATH ROOM
TERRACE
FINISHING SHOPS
CABINET SHOPS
CORRIDOR
BOYS' TOILETS
JANITOR
PIPES
LUMBER STORE
PATTERN SHOP
CORRIDOR 15' WIDE
GIRLS LUNCH ROOM
KITCHEN
BOYS' LUNCH ROOM
VESTIBULE
CLUB ROOM
CLASS ROOM
DRAWING ROOM
250 0
GROUND FLOOR PLAN
FEET

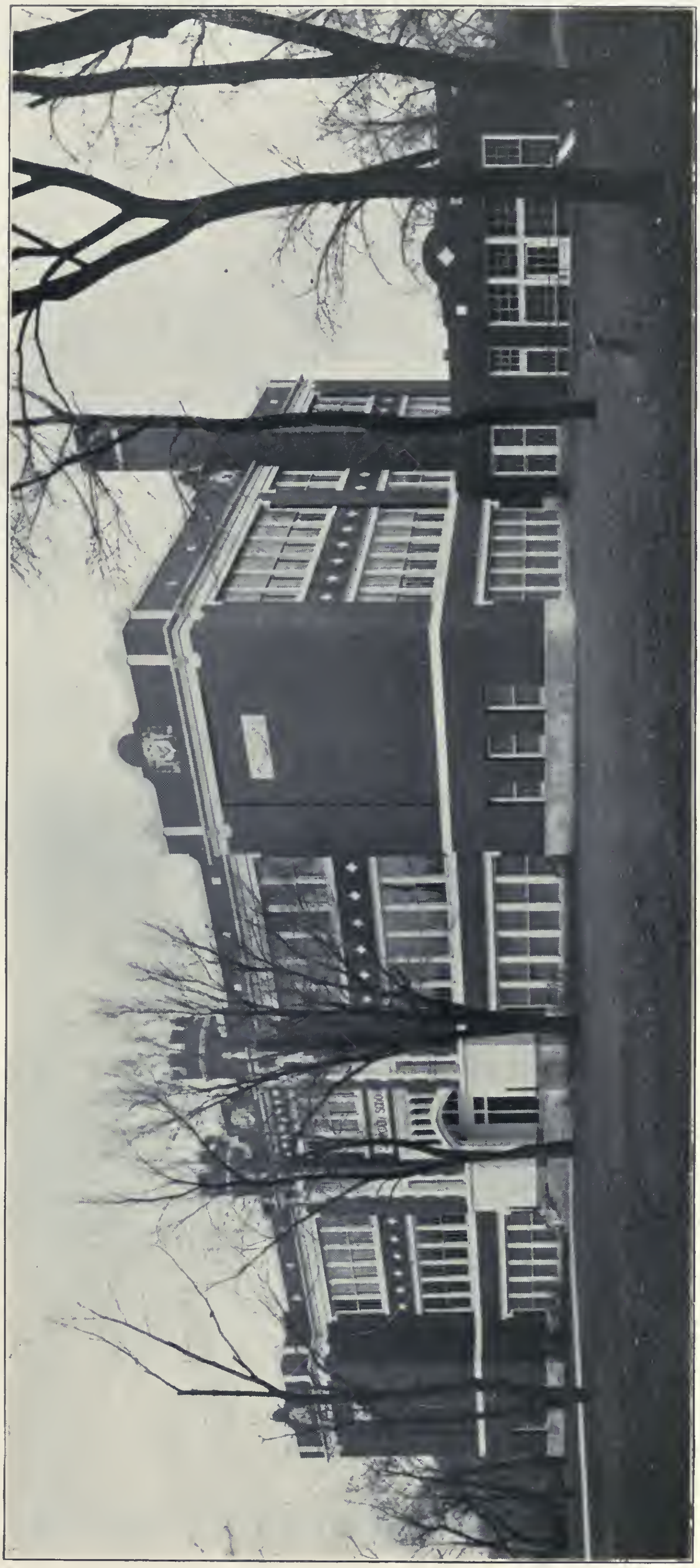
GROUND FLOOR PLAN, SOUTH END JUNIOR HIGH SCHOOL, HOUSTON, TEX.

Layton & Smith, Architects, Oklahoma City, Okla.


25'-6"
144'-11"
93'-11"
25'-6"
7'-0"
GIRLS TOILET
LOCKER
SHOWER RM
CLOSET
CUPBOARD
PANTRY
FITTING ROOM
SINK
80'-0"
DOMESTIC SCIENCE & ART
44'-0" x 23'-0"
CLOSET
CLOSET
GYMNASIUM
60'-2" x 28'-0"
INCLINE DOWN
UP
DOWN
APPARATUS RM BALCONY ABOVE
JANITOR'S CLOSET
INCLINE DOWN
UP
BOYS TOILET
SHOWER RM
LOCKER
LUMBER RACK
TOOL CABINET
TO BOILER RM WING
CORRIDOR
LUNCH ROOM
32'-0" x 23'-0"
WARDROBE
UP
FAN AND HEATER RM
UP
WARDROBE
CLASS ROOM
32'-0" x 23'-0"
CLOSET
SHELVES
MANUAL TRAINING
50'-6" x 23'-0"
GROUND FLOOR PLAN
SCALE OF FEET

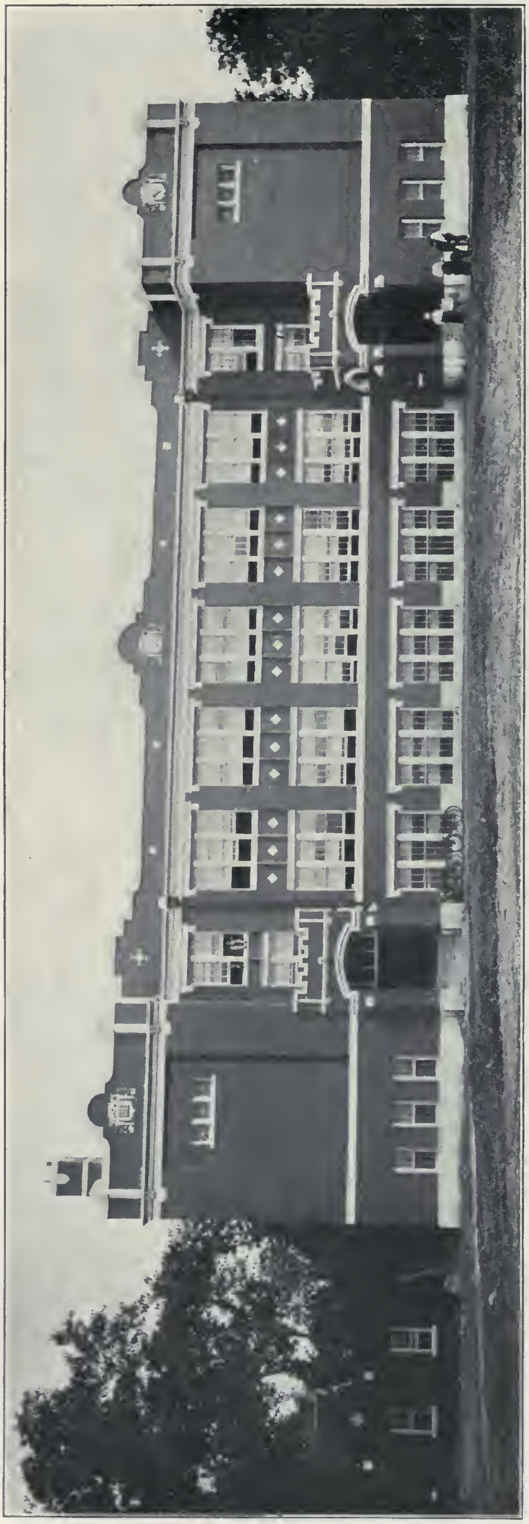
GROUND FLOOR PLAN, SHERMAN JUNIOR HIGH SCHOOL, HUTCHINSON, KANS.

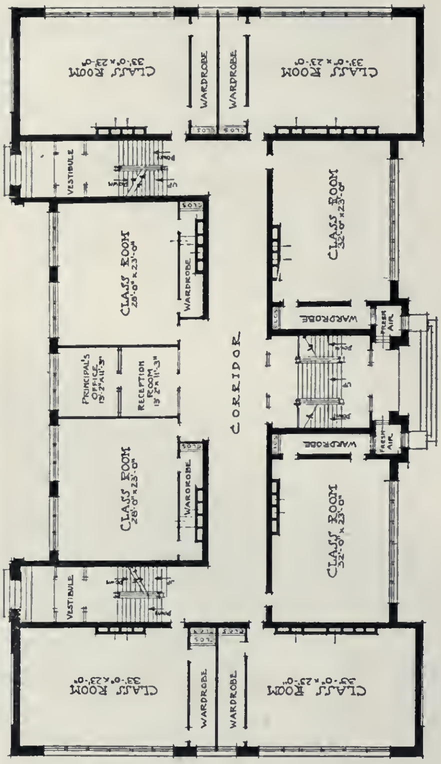
Mann & Gerow, Architects, Hutchinson.



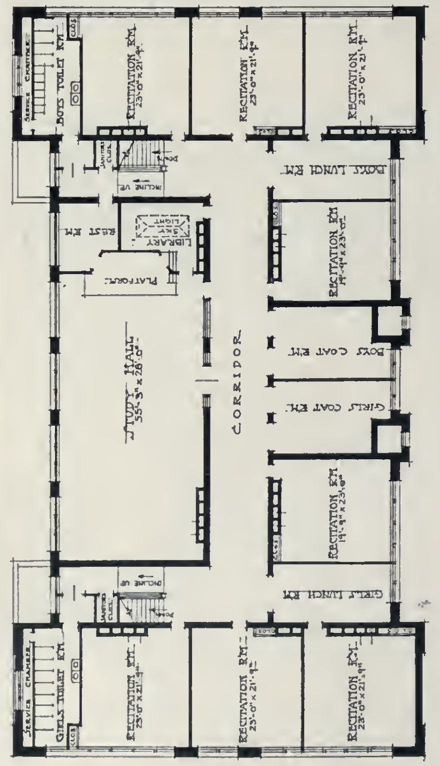
SHERMAN JUNIOR HIGH SCHOOL, HUTCHINSON, KANS.

Mann & Gerow, Architects, Hutchinson.



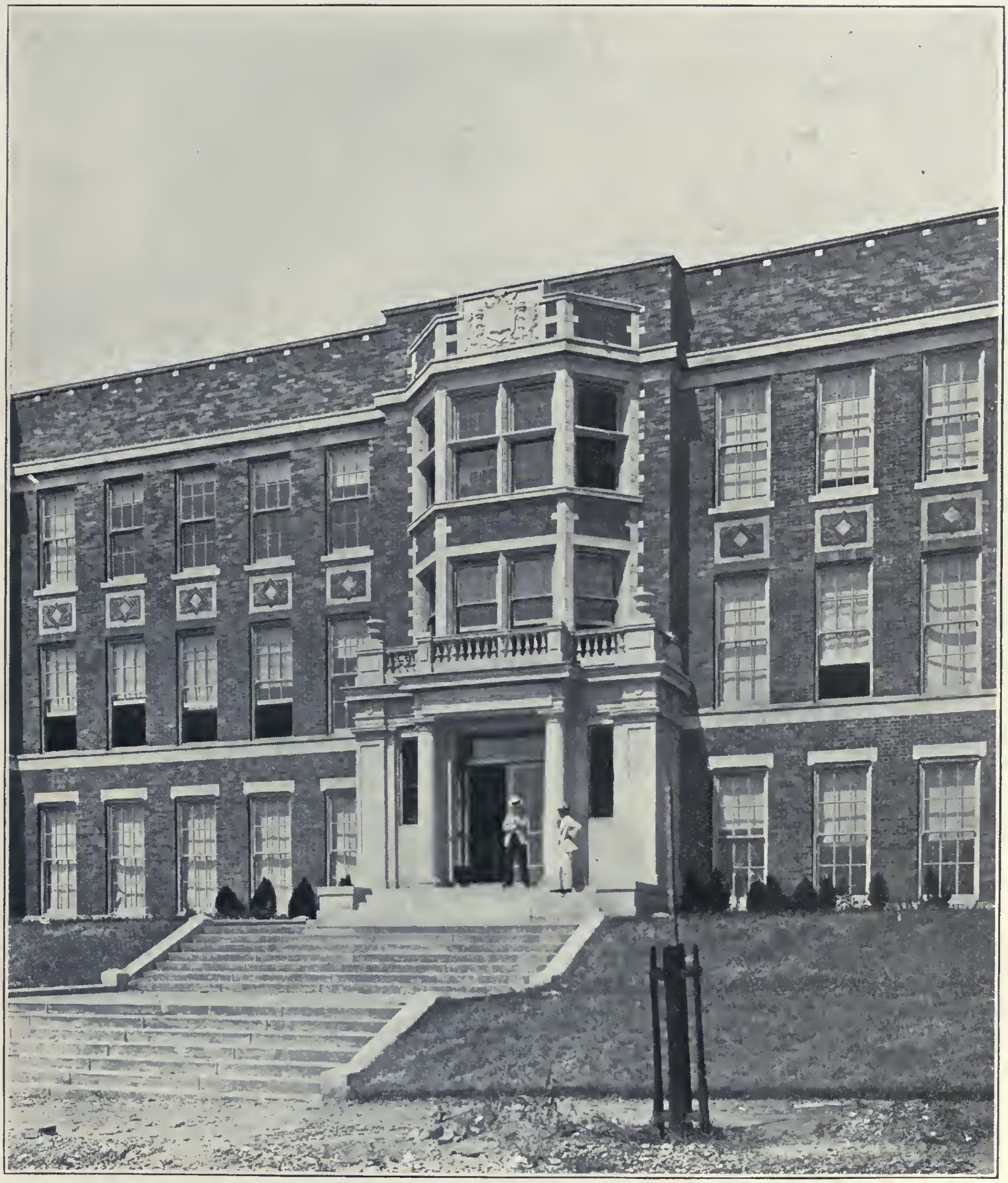

CLASS ROOM 33'-0"×23'-0"
WARDROBE
VESTIBULE
CLASS ROOM 28'-0"×23'-0"
PRINCIPAL'S OFFICE 13'-2"×11'-3"
RECEPTION ROOM 13'-2"×11'-3"
CORRIDOR
CLASS ROOM 32'-0"×23'-0"
FRESH AIR

FIRST FLOOR PLAN
SCALE OF FEET

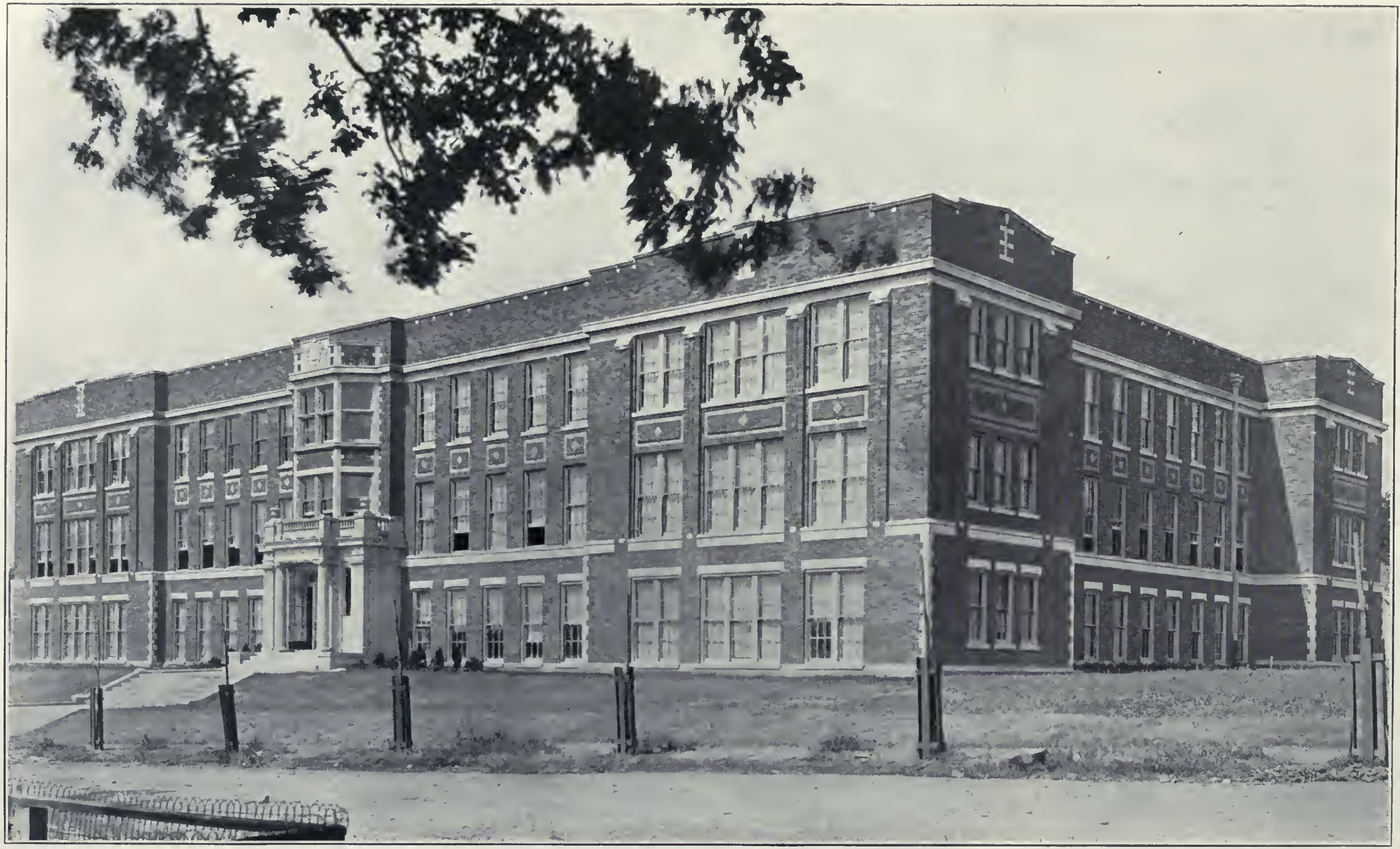

SERVICE CHAMBER
BOYS TOILET RM
GIRLS TOILET RM
RECITATION RM 23'-0"×21'-4"
RECITATION RM 23'-0"×21'-9"
BOYS LUNCH RM
GIRLS LUNCH RM
REST RM
LIBRARY
SKY LIGHT
PLATFORM
INCLINE UP
STUDY HALL 35'-3"×26'-0"
CORRIDOR
RECITATION RM 19'-4"×23'-0"
BOYS COAT RM
GIRLS COAT RM

SECOND FLOOR PLAN
SCALE OF FEET

REAR ELEVATION AND FLOOR PLANS, SHERMAN JUNIOR HIGH SCHOOL BUILDING, HUTCHINSON, KANS.

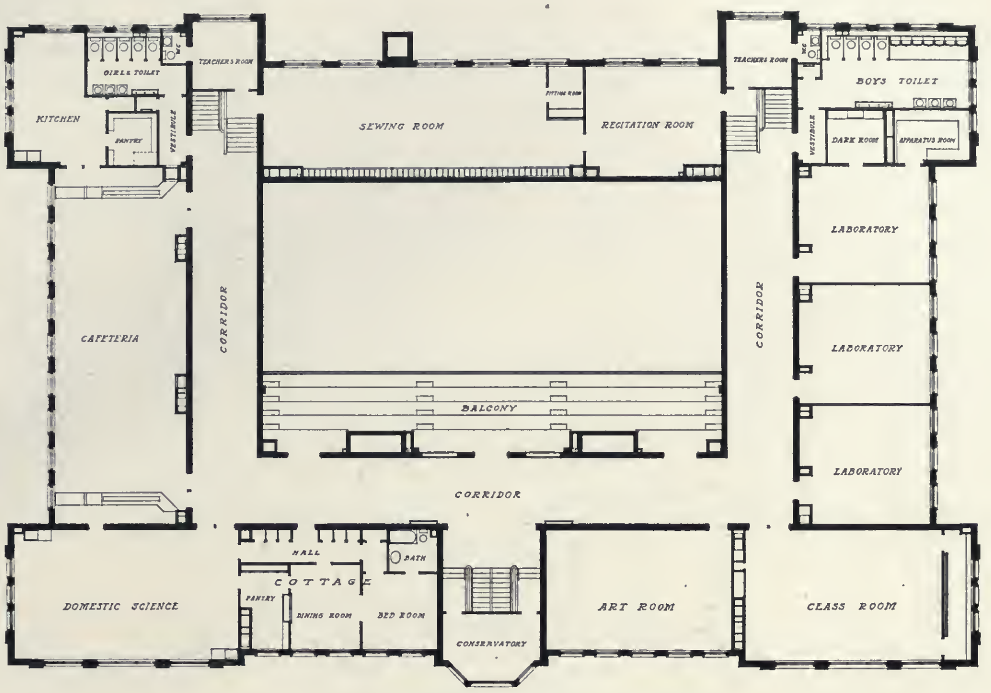


DETAIL OF MAIN ENTRANCE, WEST SIDE JUNIOR HIGH SCHOOL, LITTLE ROCK, ARK.

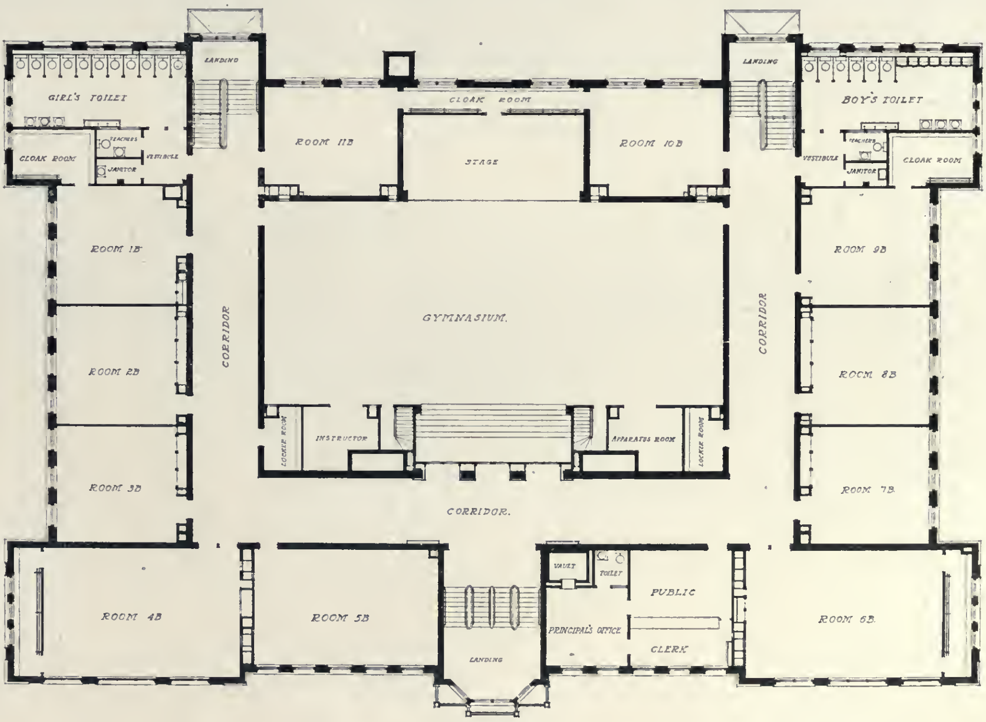


WEST SIDE JUNIOR HIGH SCHOOL, LITTLE ROCK, ARK.

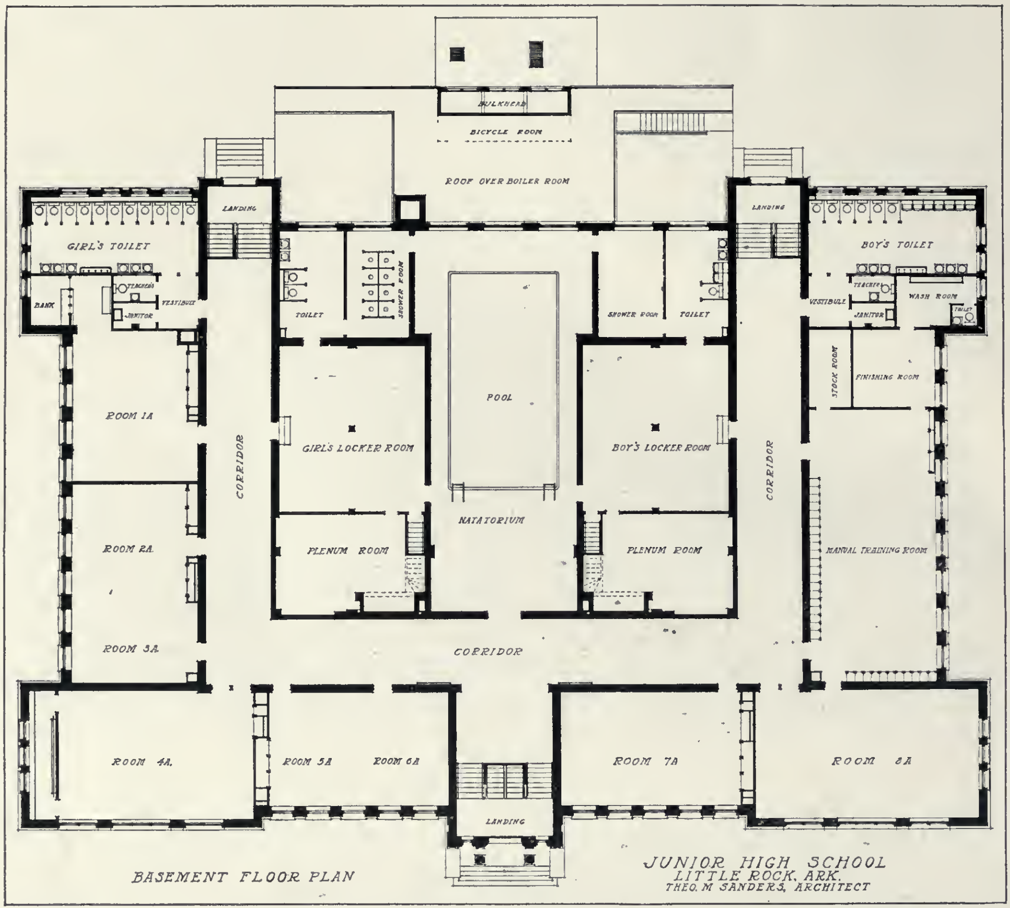
M. B. and Theo. Sanders, Architects, Little Rock.


KITCHEN
GIRLS TOILET
W.C.
PANTRY
VESTIBULE
TEACHERS ROOM
SEWING ROOM
FITTING ROOM
RECITATION ROOM
TEACHERS ROOM
W.C.
BOYS TOILET
VESTIBULE
DARK ROOM
APPARATUS ROOM
CAFETERIA
CORRIDOR
BALCONY
CORRIDOR
LABORATORY
LABORATORY
LABORATORY
CORRIDOR
HALL
COTTAGE
BATH
PANTRY
DINING ROOM
BED ROOM
DOMESTIC SCIENCE
CONSERVATORY
ART ROOM
CLASS ROOM

SECOND FLOOR PLAN
JUNIOR HIGH SCHOOL, LITTLE ROCK, ARK
THEO M. SANDERS, ARCHITECT

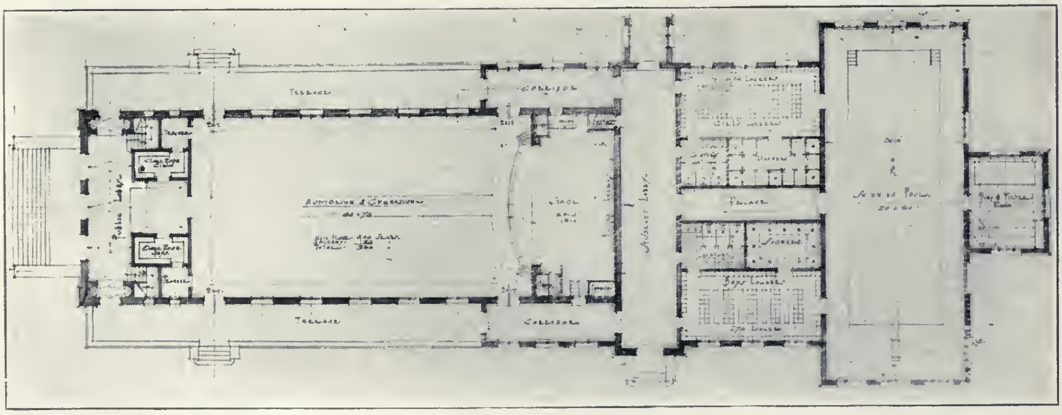

LANDING
LANDING
GIRL'S TOILET
TEACHERS
CLOAK ROOM
VESTIBULE
JANITOR
CLOAK ROOM
ROOM 11B
STAGE
ROOM 10B
BOY'S TOILET
TEACHERS
VESTIBULE
JANITOR
CLOAK ROOM
ROOM 1B
ROOM 2B
ROOM 3B
CORRIDOR
GYMNASIUM
CORRIDOR
ROOM 9B
ROOM 8B
ROOM 7B
LOCKER ROOM
INSTRUCTOR
APPARATUS ROOM
LOCKER ROOM
CORRIDOR.
ROOM 4B
ROOM 5B
VAULT
TOILET
PUBLIC
PRINCIPAL'S OFFICE
CLERK
LANDING
ROOM 6B.

FIRST FLOOR PLAN
JUNIOR HIGH SCHOOL, LITTLE ROCK, ARK
THEO M. SANDERS, ARCHITECT.


BULKHEAD
BICYCLE ROOM
ROOF OVER BOILER ROOM
LANDING
GIRL'S TOILET
TEACHER'S
VESTIBULE
JANITOR
BANK
TOILET
SHOWER ROOM
POOL
SHOWER ROOM
TOILET
LANDING
BOY'S TOILET
TEACHER'S
VESTIBULE
JANITOR
WASH ROOM
TOILET
STOCK ROOM
FINISHING ROOM
ROOM 1A
CORRIDOR
GIRL'S LOCKER ROOM
BOY'S LOCKER ROOM
CORRIDOR
NATATORIUM
ROOM 2A
PLENUM ROOM
PLENUM ROOM
MANUAL TRAINING ROOM
ROOM 3A
CORRIDOR
ROOM 4A.
ROOM 5A
ROOM 6A
ROOM 7A
ROOM 8A
LANDING

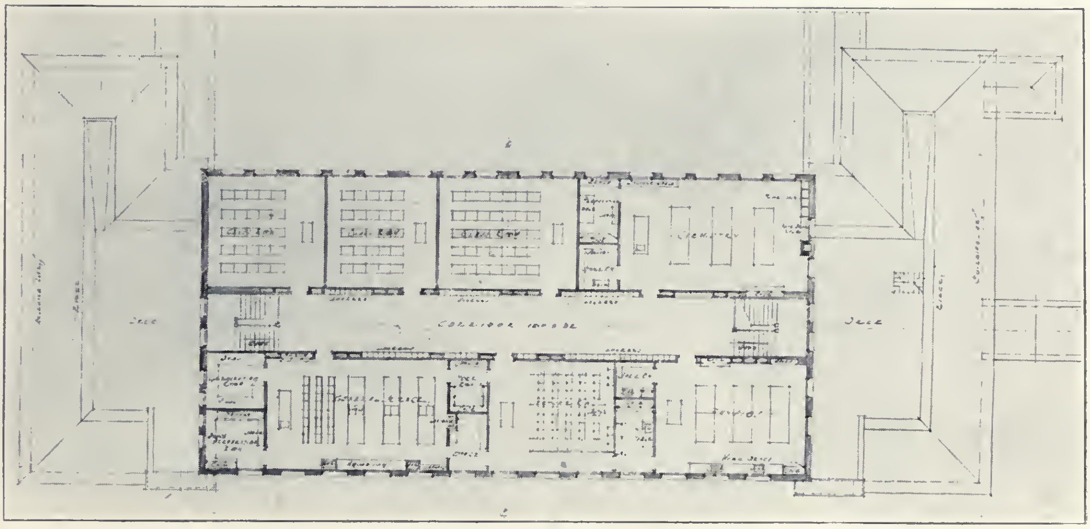
BASEMENT FLOOR PLAN

JUNIOR HIGH SCHOOL
LITTLE ROCK, ARK.
THEO. M SANDERS, ARCHITECT

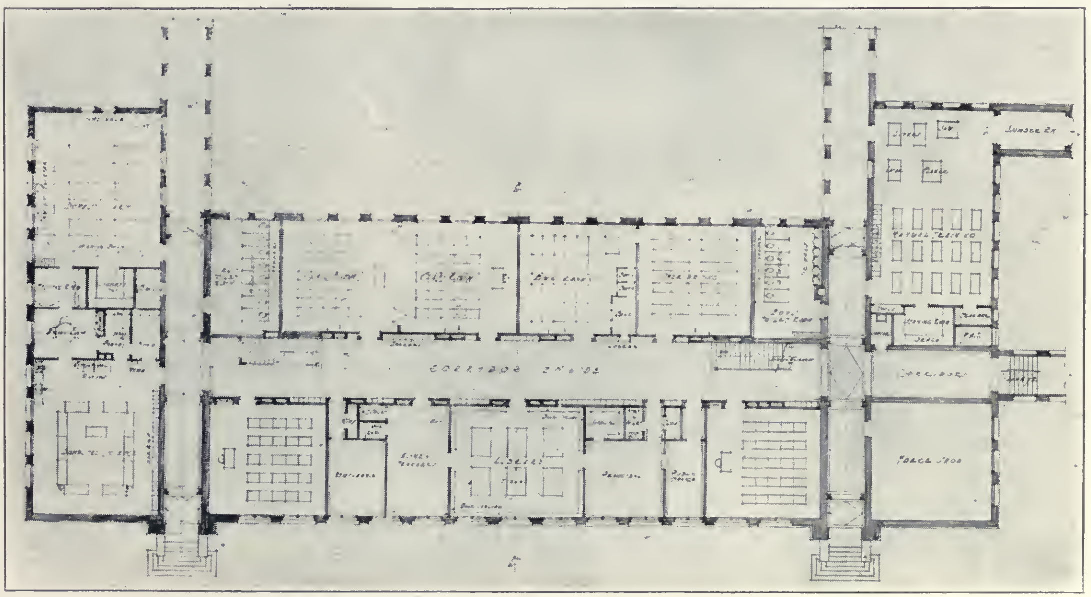


FLOOR PLAN OF GYMNASIUM AND AUDITORIUM BUILDING, ELKO COUNTY HIGH SCHOOL, ELKO, NEV.

J. J. Donovan, Architect, Oakland, Cal.

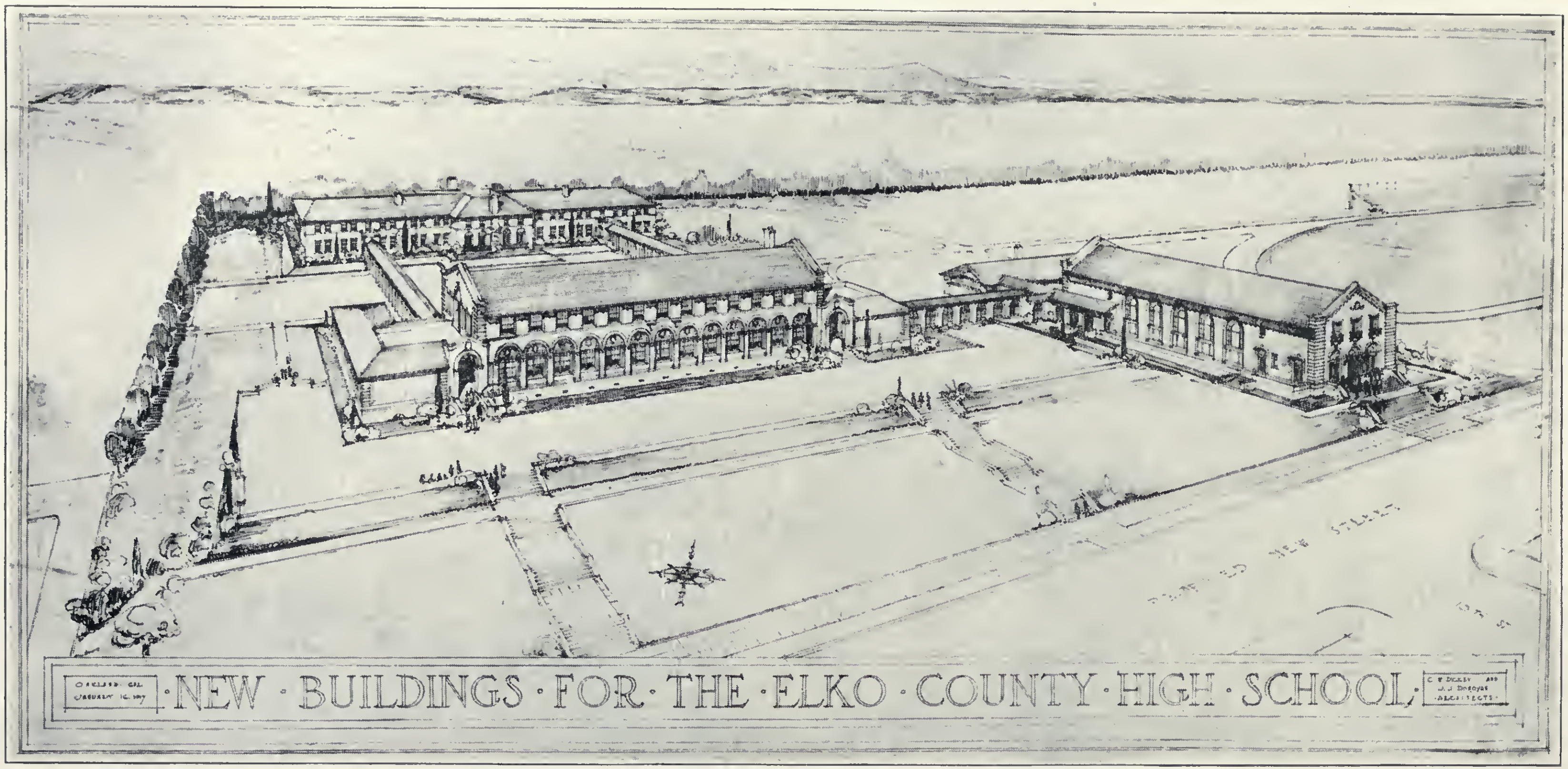


SECOND FLOOR PLAN, CLASSROOM BUILDING, ELKO COUNTY HIGH SCHOOL, ELKO, NEV.



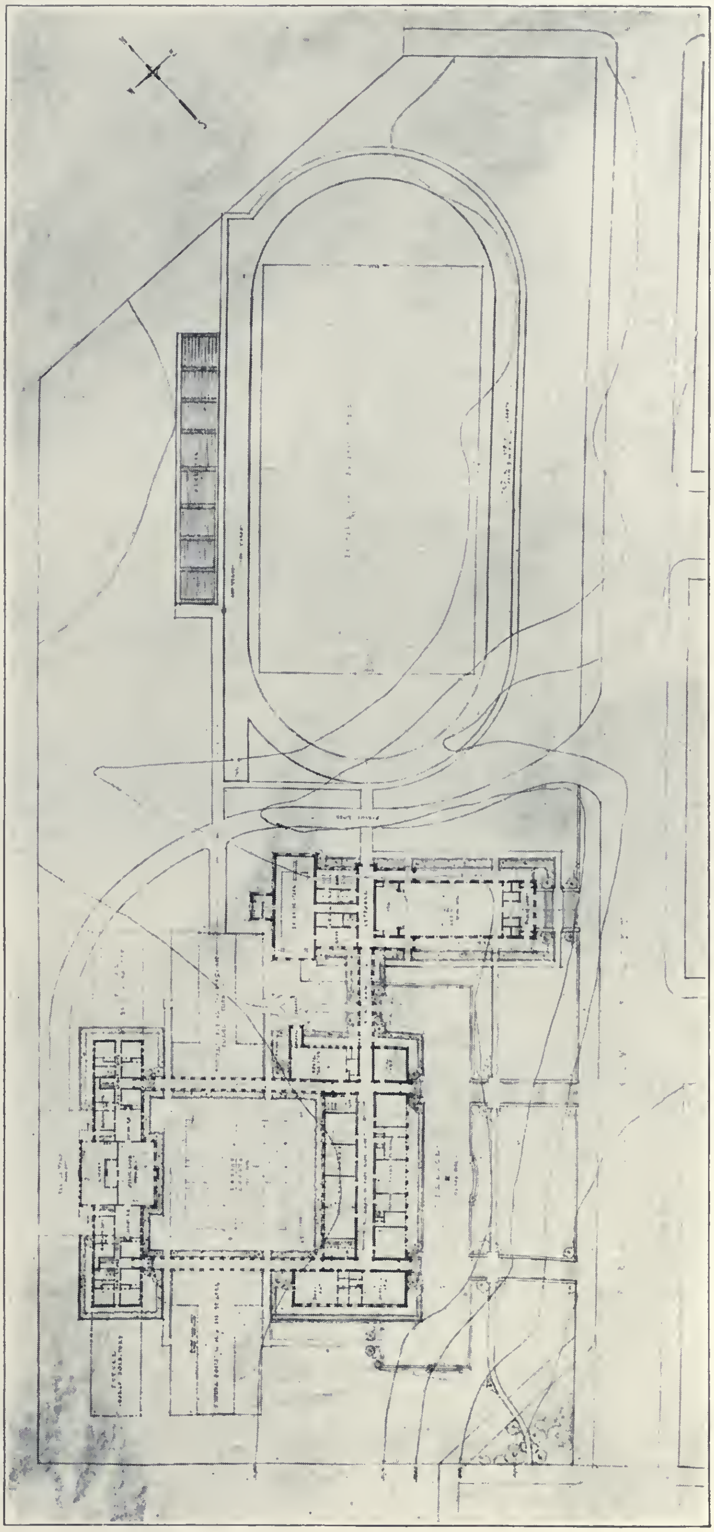
FIRST FLOOR PLAN, CLASSROOM BUILDING, ELKO COUNTY HIGH SCHOOL, ELKO, NEV.

J. J. Donovan, Architect, Oakland, Cal.


OAKLAND · CAL
·NEW · BUILDINGS · FOR · THE · ELKO · COUNTY · HIGH · SCHOOL·
C W DICKEY AND
J J DONOVAN
·ARCHITECTS·

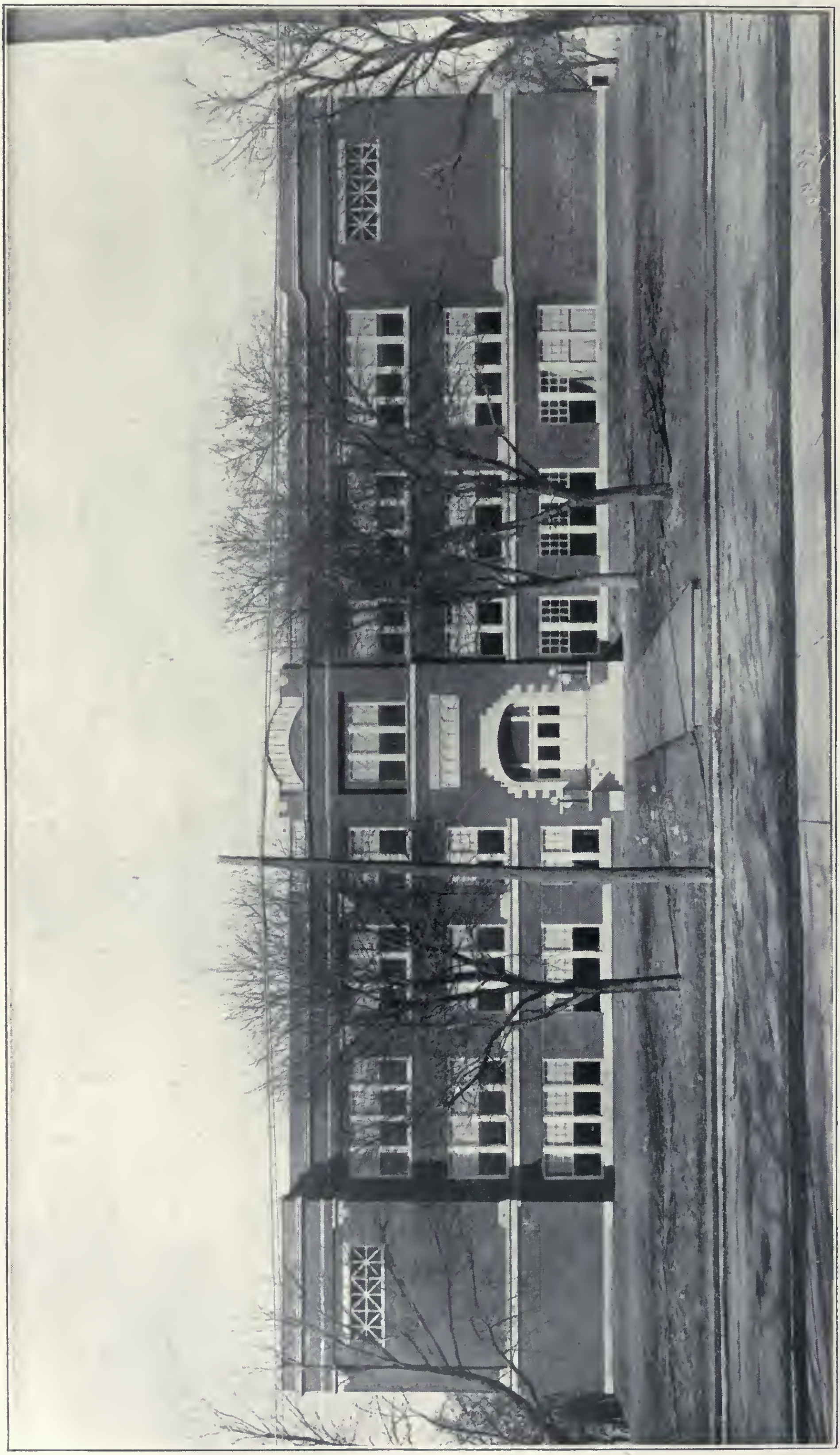
BIRDSEYE PERSPECTIVE, ELKO COUNTY HIGH SCHOOL, ELKO, NEV.

J. J. Donovan, Architect, Oakland, Cal.



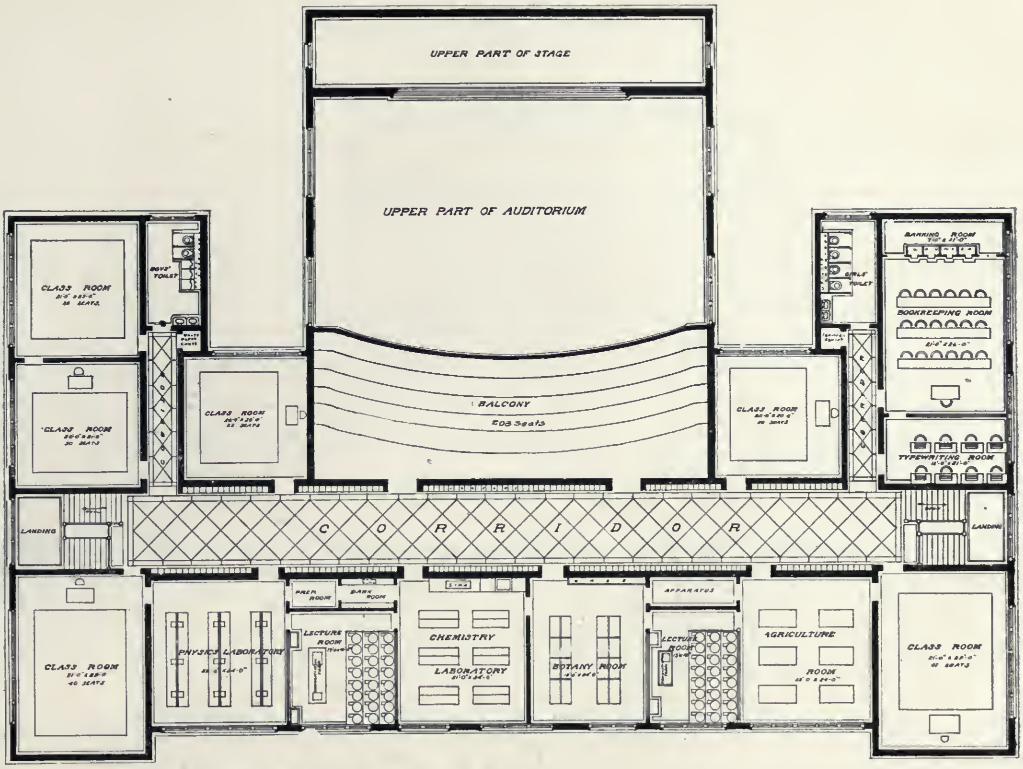
PLAT PLAN, ELKO COUNTY HIGH SCHOOL, ELKO, NEV.

J. J. Donovan, Architect, Oakland, Cal.

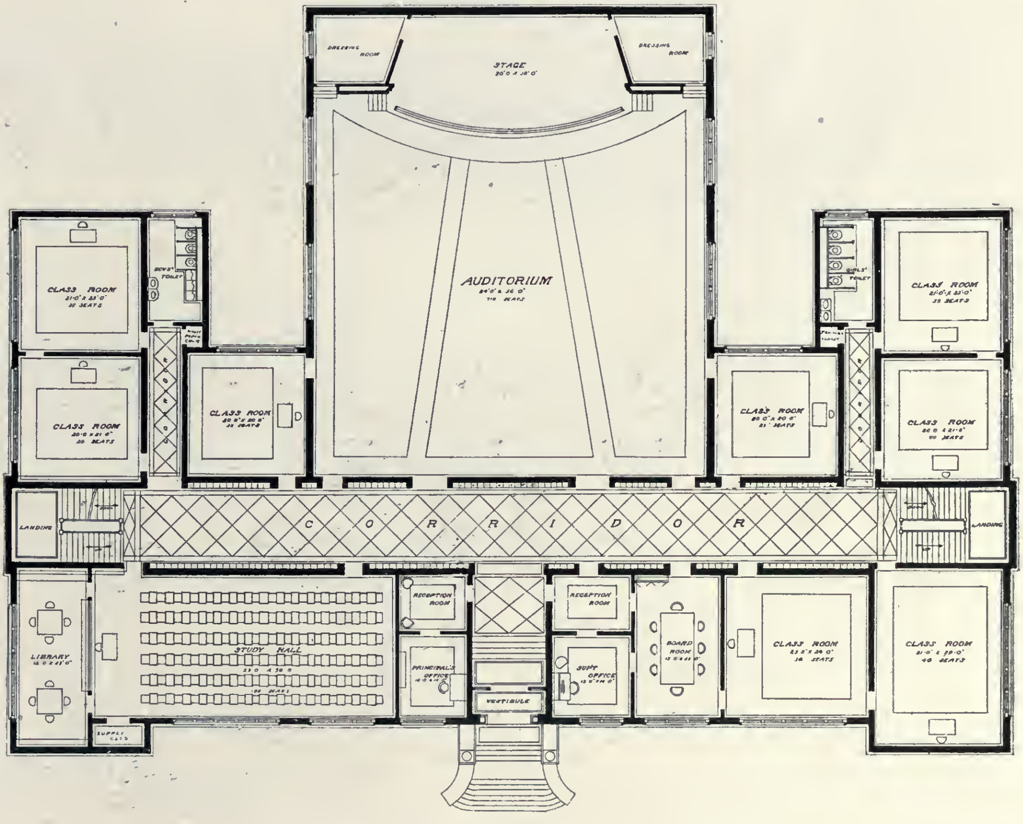


HIGH SCHOOL, IOLA, KANS.

Thomas W. Williamson & Co., Architects, Topeka, Kans.

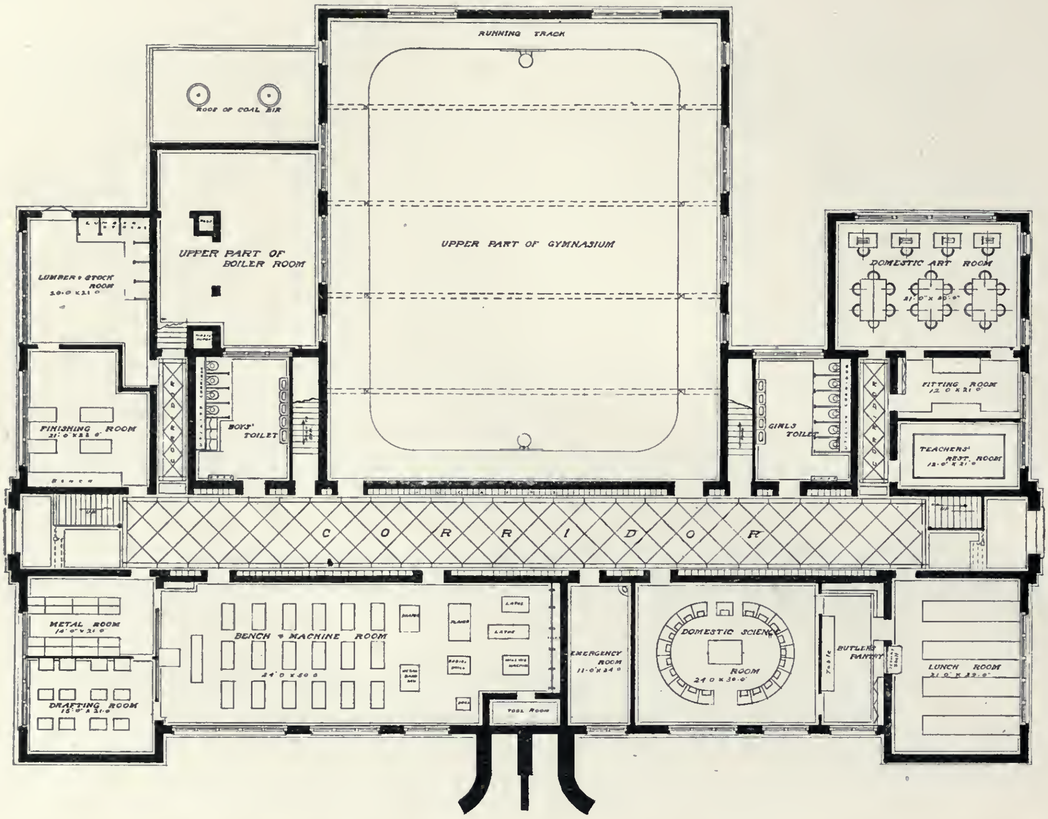

UPPER PART OF STAGE
UPPER PART OF AUDITORIUM
CLASS ROOM
BOYS' TOILET
WASTE PAPER CHUTE
CLASS ROOM
CLASS ROOM
BALCONY
208 Seats
CLASS ROOM
GIRLS' TOILET
BANKING ROOM
BOOKKEEPING ROOM
TYPEWRITING ROOM
LANDING
C O R R I D O R
LANDING
CLASS ROOM
40 SEATS
PHYSICS LABORATORY
PREP. ROOM
DARK ROOM
LECTURE ROOM
CHEMISTRY LABORATORY
BOTANY ROOM
APPARATUS
LECTURE ROOM
AGRICULTURE ROOM
CLASS ROOM

SECOND FLOOR PLAN

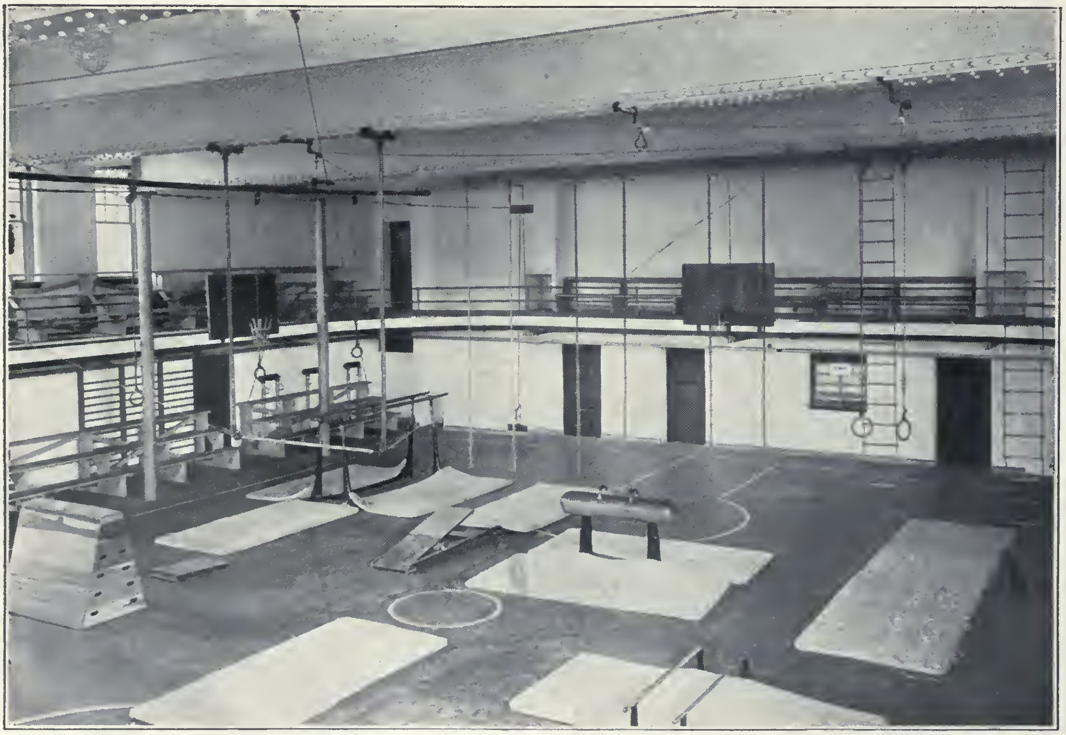

DRESSING ROOM
STAGE
DRESSING ROOM
AUDITORIUM
CLASS ROOM
BOYS' TOILET
CLASS ROOM
CLASS ROOM
CLASS ROOM
GIRLS' TOILET
CLASS ROOM
CLASS ROOM
LANDING
C O R R I D O R
LANDING
LIBRARY
STUDY HALL
SUPPLY CASE
RECEPTION ROOM
PRINCIPAL'S OFFICE
VESTIBULE
RECEPTION ROOM
SUPT. OFFICE
BOARD ROOM
CLASS ROOM
16 SEATS
CLASS ROOM
40 SEATS

FIRST FLOOR PLAN

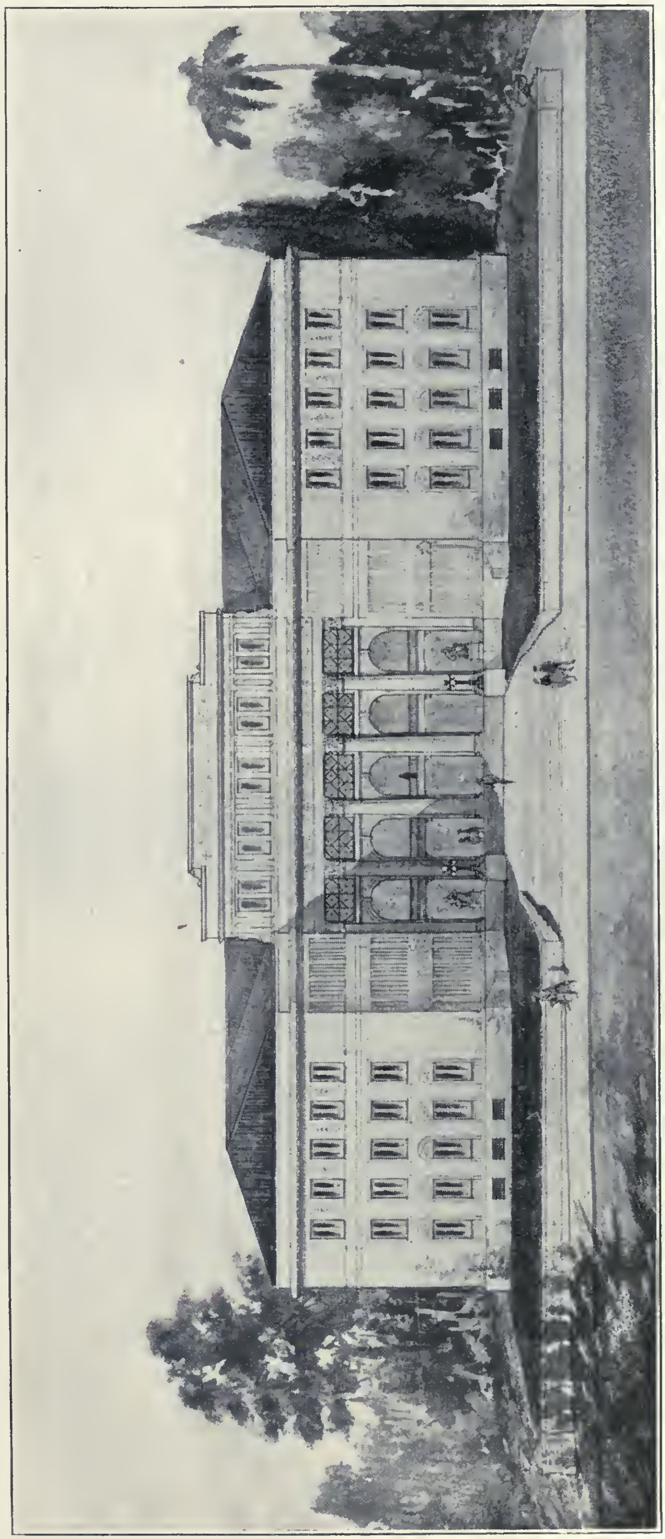
FLOOR PLANS, HIGH SCHOOL, IOLA, KANS.
Thomas W. Williamson & Co., Architects, Topeka, Kans.


RUNNING TRACK
ROOF OF COAL BIN
UPPER PART OF BOILER ROOM
UPPER PART OF GYMNASIUM
LUMBER + STOCK ROOM
20-0 X 21-0
FINISHING ROOM
21-0 X 22-0
BENCH
BOYS' TOILET
GIRLS TOILET
DOMESTIC ART ROOM
21-0 X 40-0
FITTING ROOM
12-0 X 21-0
TEACHERS' REST ROOM
12-0 X 21-0
C O R R I D O R
METAL ROOM
14-0 X 21-0
DRAFTING ROOM
15-0 X 21-0
BENCH + MACHINE ROOM
24-0 X 50-0
LATHE
LATHE
PLANER
TOOL ROOM
EMERGENCY ROOM
11-0 X 24-0
DOMESTIC SCIENCE ROOM
24-0 X 30-0
Table
BUTLERS PANTRY
LUNCH ROOM
21-0 X 29-0

GROUND FLOOR PLAN

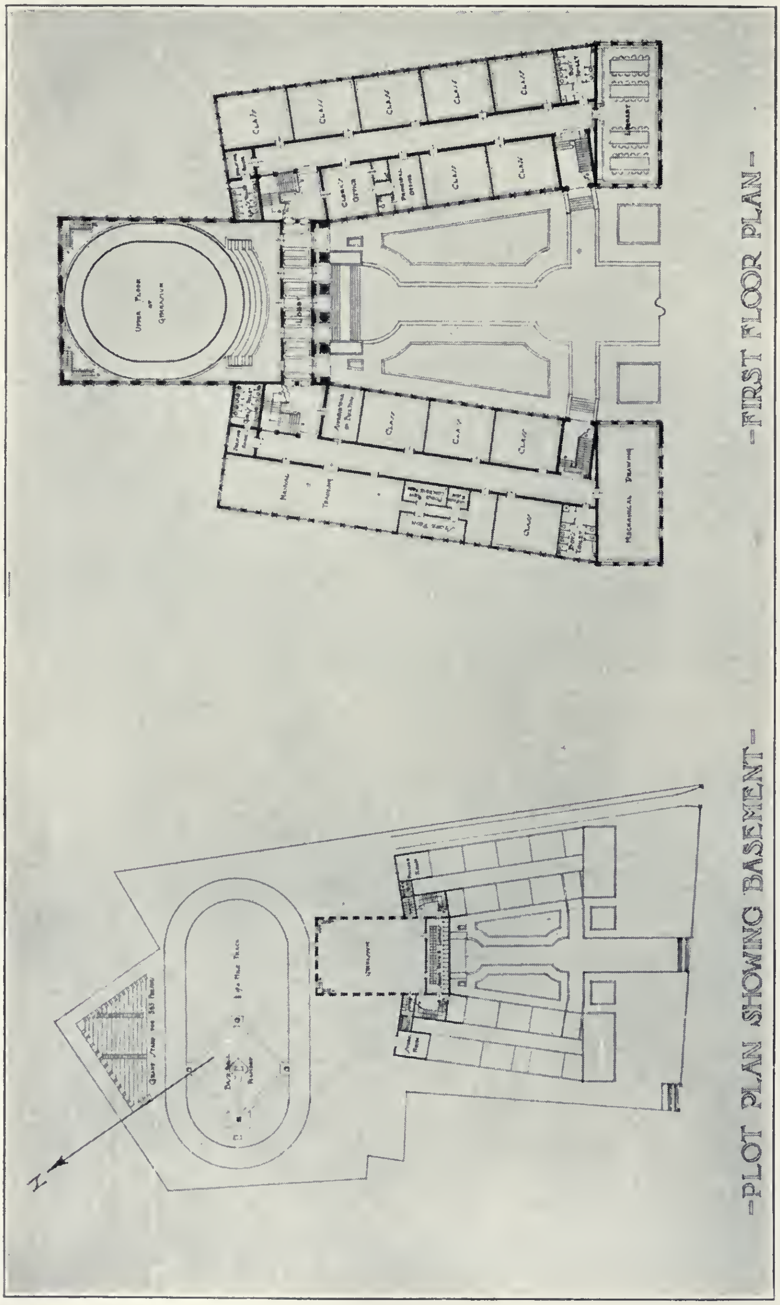


GROUND FLOOR PLAN AND GYMNASIUM, HIGH SCHOOL, IOLA, KANS.
Thomas W. Williamson & Co., Architects, Topeka, Kans.

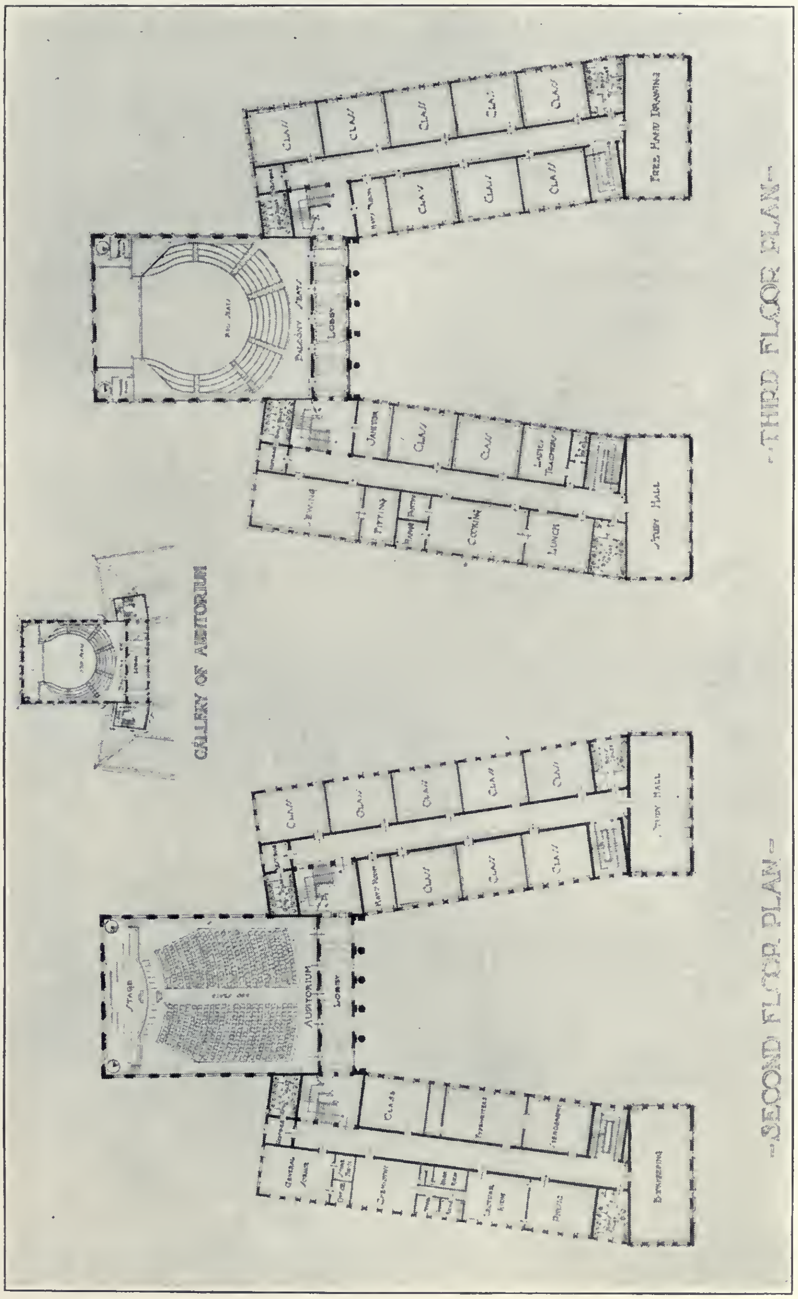


HIGH SCHOOL, SAN JUAN, PORTO RICO.

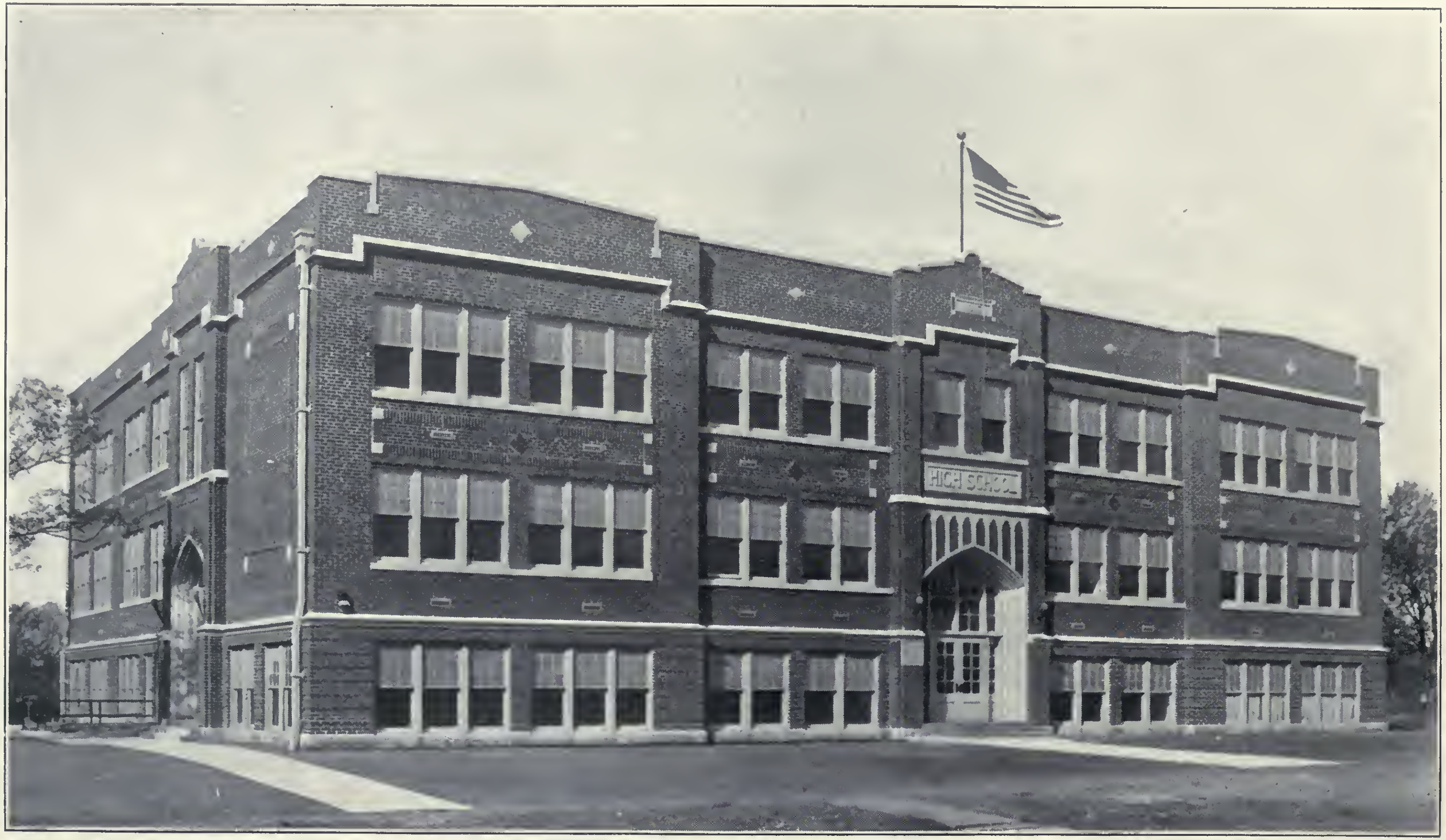
A. C. Finlayson, Architect, San Juan, Porto Rico.


-PLOT PLAN SHOWING BASEMENT-
-FIRST FLOOR PLAN-
N
Grand Stand for 563 Persons
1/4 Mile Track
Gymnasium
Upper Floor of Gymnasium
Class
Library
Mechanical Drawing
Manual Training

HIGH SCHOOL, SAN JUAN, PORTO RICO.

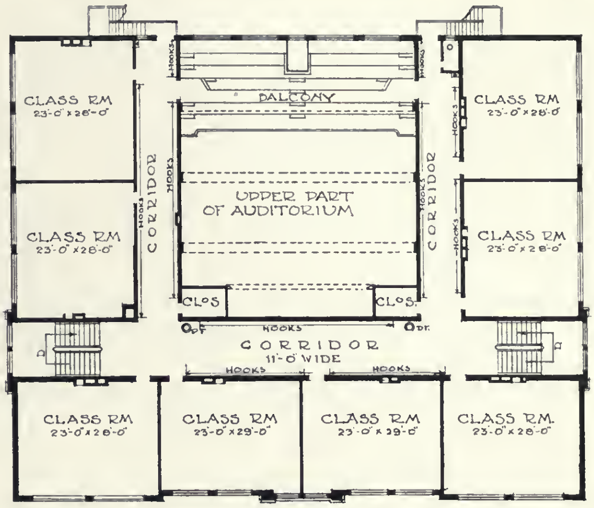

SECOND FLOOR PLAN
THIRD FLOOR PLAN
GALLERY OF AUDITORIUM
STAGE
AUDITORIUM
LOBBY
BALCONY SEATS
CLASS
STUDY HALL
FREE HAND DRAWING
JANITOR
LADIES TEACHERS
SEWING
FITTING
COOKING
LUNCH
TYPEWRITERS
STENOGRAPHY
BOOKKEEPING
GENERAL OFFICE
CHEMISTRY
LECTURE ROOM
PHYSICS

HIGH SCHOOL, SAN JUAN, PORTO RICO.

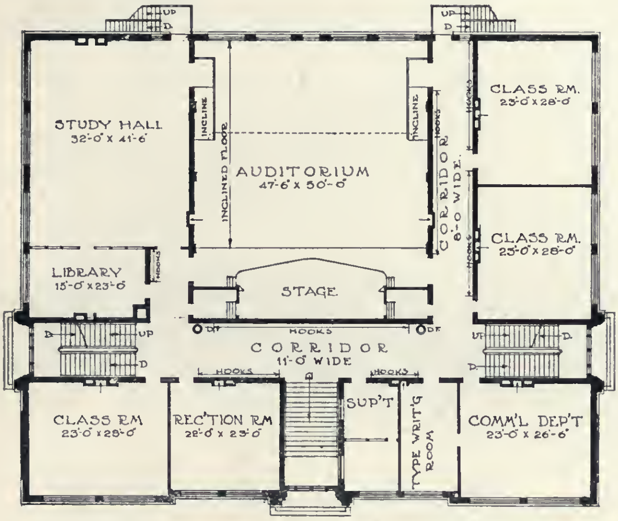

HIGH SCHOOL

HIGH SCHOOL, CALDWELL, KANS.

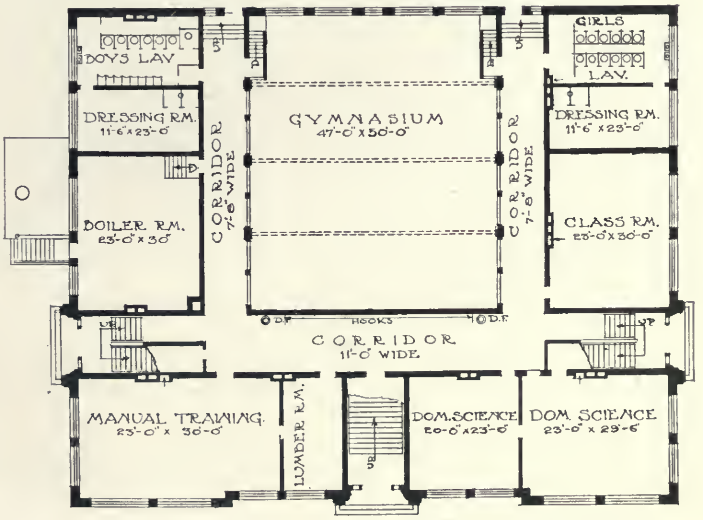
S. S. Voight, Architect, Wichita, Kans.


CLASS RM
23'-0" x 28'-0"
CLASS RM
23'-0" x 28'-0"
HOOKS
CORRIDOR
BALCONY
UPPER PART
OF AUDITORIUM
HOOKS
CORRIDOR
CLASS RM
23'-0" x 28'-0"
CLASS RM
23'-0" x 28'-0"
CLOS.
CLOS.
D.F.
HOOKS
D.F.
CORRIDOR
11'-0" WIDE
HOOKS
HOOKS
CLASS RM
23'-0" x 28'-0"
CLASS RM
23'-0" x 29'-0"
CLASS RM
23'-0" x 29'-0"
CLASS RM.
23'-0" x 28'-0"

SECOND FLOOR PLAN.

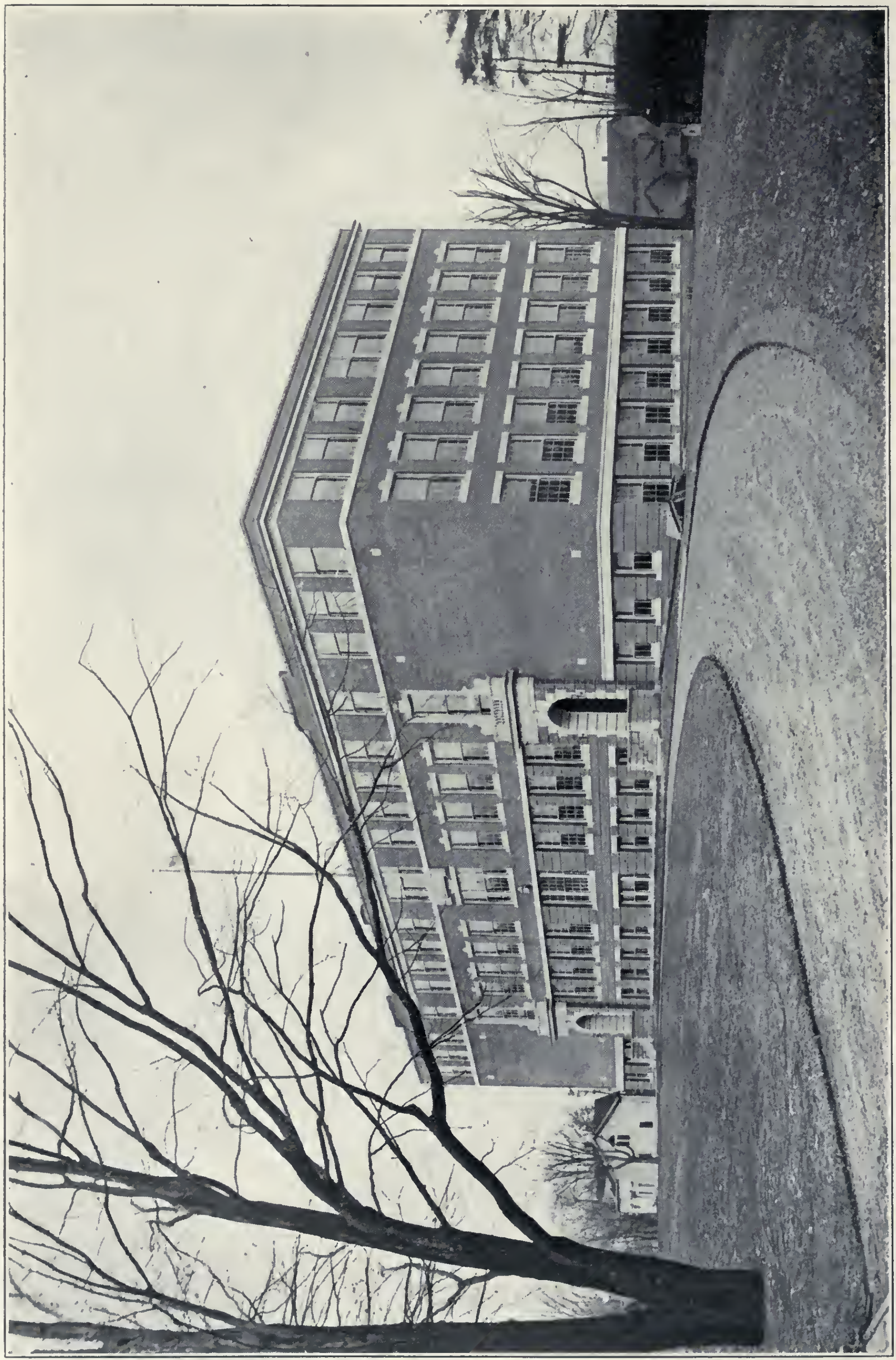

UP
D.
UP
D.
STUDY HALL
32'-0" x 41'-6"
INCLINE
INCLINED FLOOR
AUDITORIUM
47'-6" x 50'-0"
INCLINE
HOOKS
CORRIDOR
8'-0" WIDE
CLASS RM.
23'-0" x 28'-0"
CLASS RM.
23'-0" x 28'-0"
LIBRARY
15'-0" x 23'-0"
HOOKS
STAGE
D.F.
HOOKS
D.F.
CORRIDOR
11'-0" WIDE
HOOKS
HOOKS
CLASS RM
23'-0" x 28'-0"
REC'TION RM
22'-0" x 23'-0"
SUP'T
TYPE WRIT'G ROOM
COMM'L DEP'T
23'-0" x 26'-6"

·FIRST FLOOR PLAN·

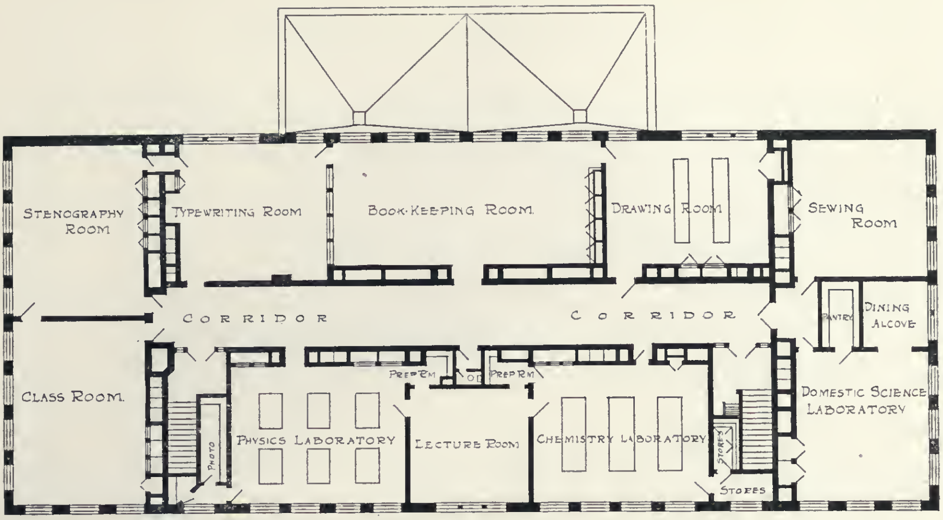

BOYS LAV
DRESSING RM.
11'-6" x 23'-0"
BOILER RM.
23'-0" x 30'
CORRIDOR
7'-6" WIDE
GYMNASIUM
47'-0" x 50'-0"
CORRIDOR
7'-6" WIDE
GIRLS
LAV.
DRESSING RM.
11'-6" x 23'-0"
CLASS RM.
23'-0" x 30'-0"
D.F.
HOOKS
D.F.
CORRIDOR
11'-0" WIDE
UP
UP
MANUAL TRAINING
23'-0" x 30'-0"
LUMBER RM.
UP
DOM. SCIENCE
20'-0" x 23'-0"
DOM. SCIENCE
23'-0" x 29'-6"

·GROUND FLOOR PLAN·

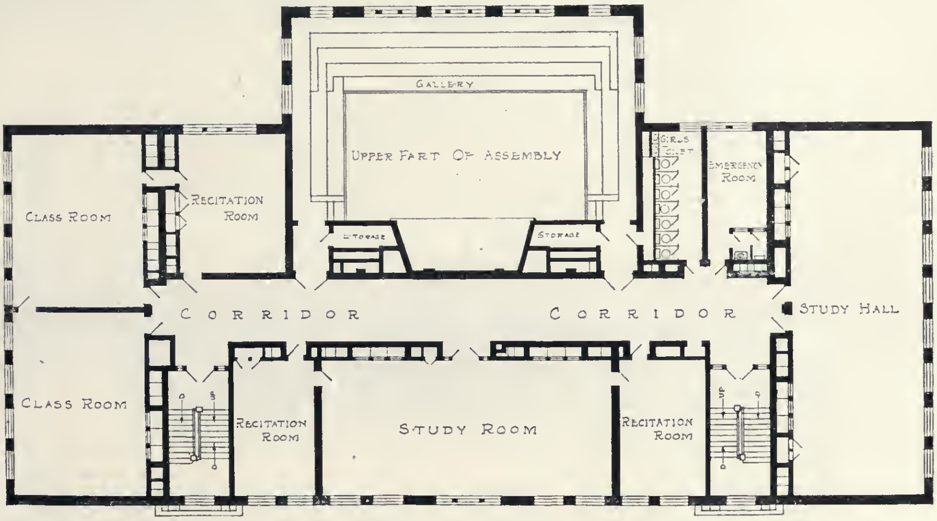
FLOOR PLANS, HIGH SCHOOL, CALDWELL, KAN.
S. S. Voight, Architect, Wichita, Kans.



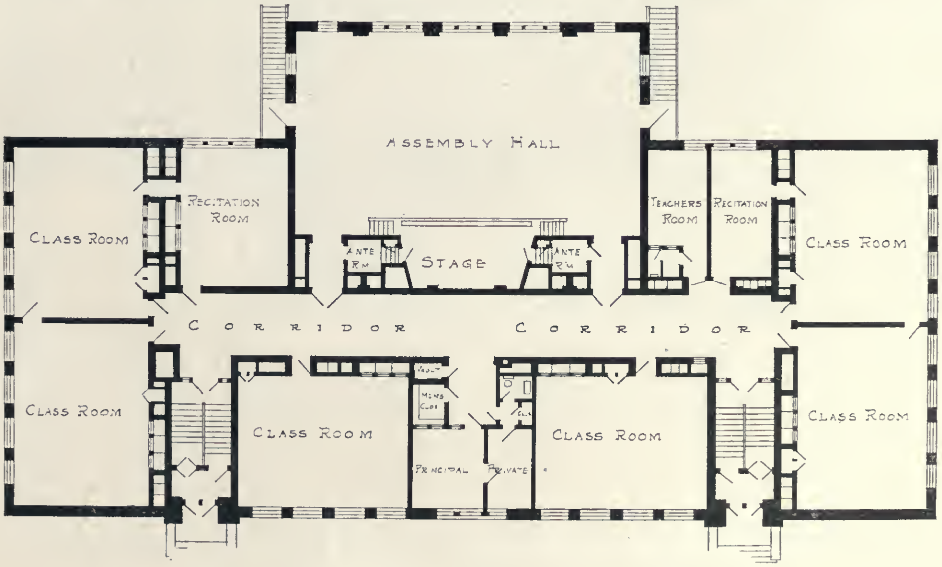
HIGH SCHOOL, DEDHAM, MASS.
Kilham & Hopkins, Architects, Boston, Mass.


Stenography Room
Typewriting Room
Book-Keeping Room
Drawing Room
Sewing Room
Corridor
Corridor
Pantry
Dining Alcove
Class Room
Photo
Physics Laboratory
Prep Rm
Prep Rm
Lecture Room
Chemistry Laboratory
Stores
Stores
Domestic Science Laboratory

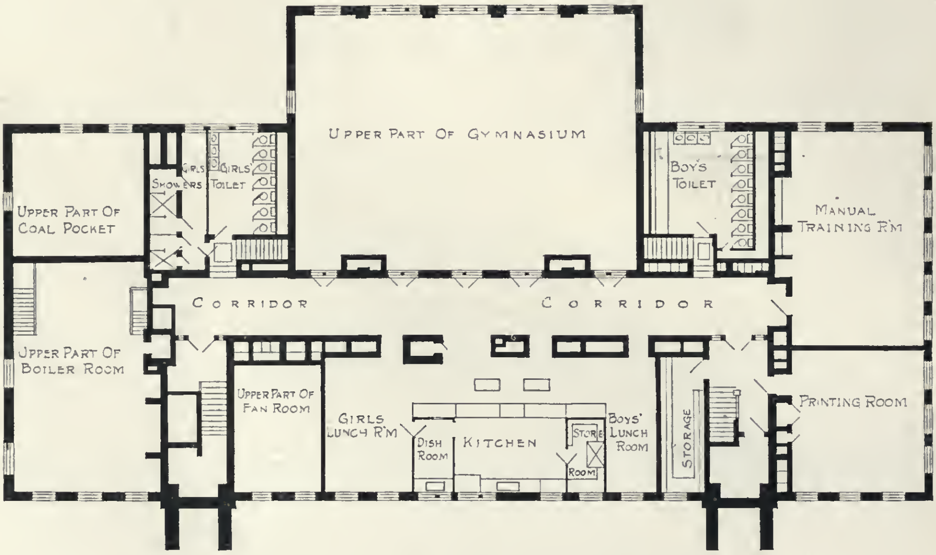
THIRD FLOOR PLAN, HIGH SCHOOL, DEDHAM, MASS.


Gallery
Upper Part of Assembly
Storage
Storage
Girls Toilet
Emergency Room
Class Room
Recitation Room
Corridor
Corridor
Study Hall
Class Room
Recitation Room
Study Room
Recitation Room
Up

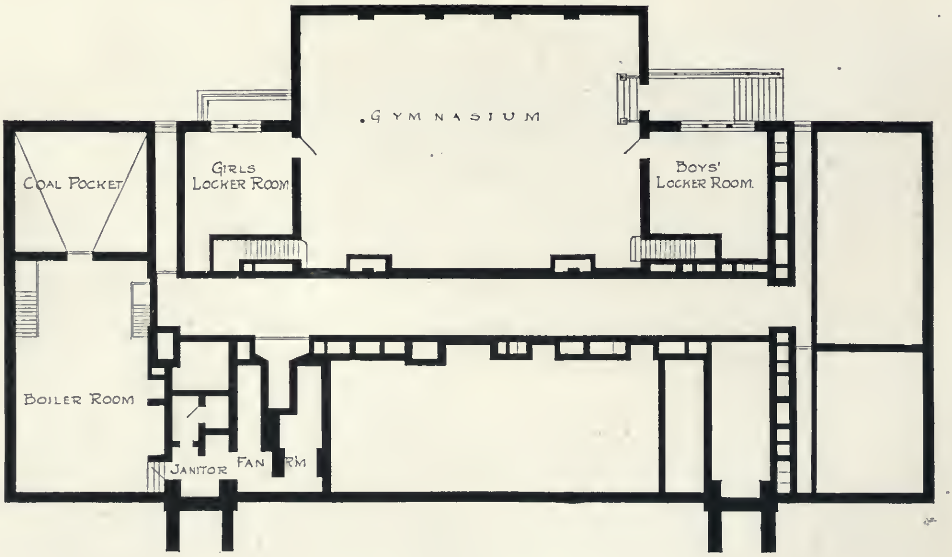
SECOND FLOOR PLAN, HIGH SCHOOL, DEDHAM, MASS.


Assembly Hall
Recitation Room
Teachers Room
Recitation Room
Class Room
Ante Rm
Stage
Ante Rm
Class Room
Corridor
Corridor
Class Room
Class Room
Vault
Mens Clos
Principal
Private
Class Room
Class Room

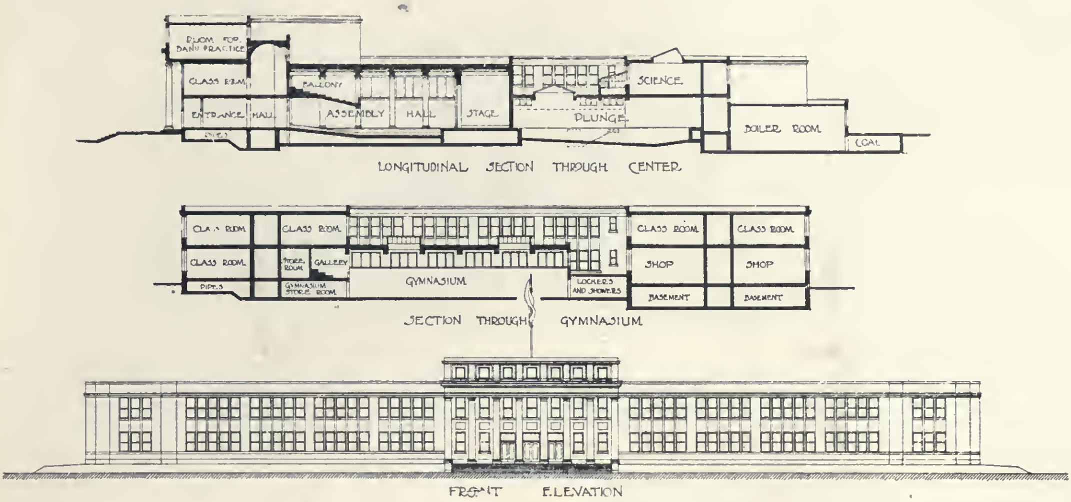
FIRST FLOOR PLAN, HIGH SCHOOL, DEDHAM, MASS.


Upper Part Of Gymnasium
Upper Part Of Coal Pocket
Girls Showers
Girls' Toilet
Boy's Toilet
Manual Training R'm
Corridor
Corridor
Upper Part Of Boiler Room
Upper Part Of Fan Room
Girls Lunch R'm
Dish Room
Kitchen
Store Room
Boys' Lunch Room
Storage
Printing Room

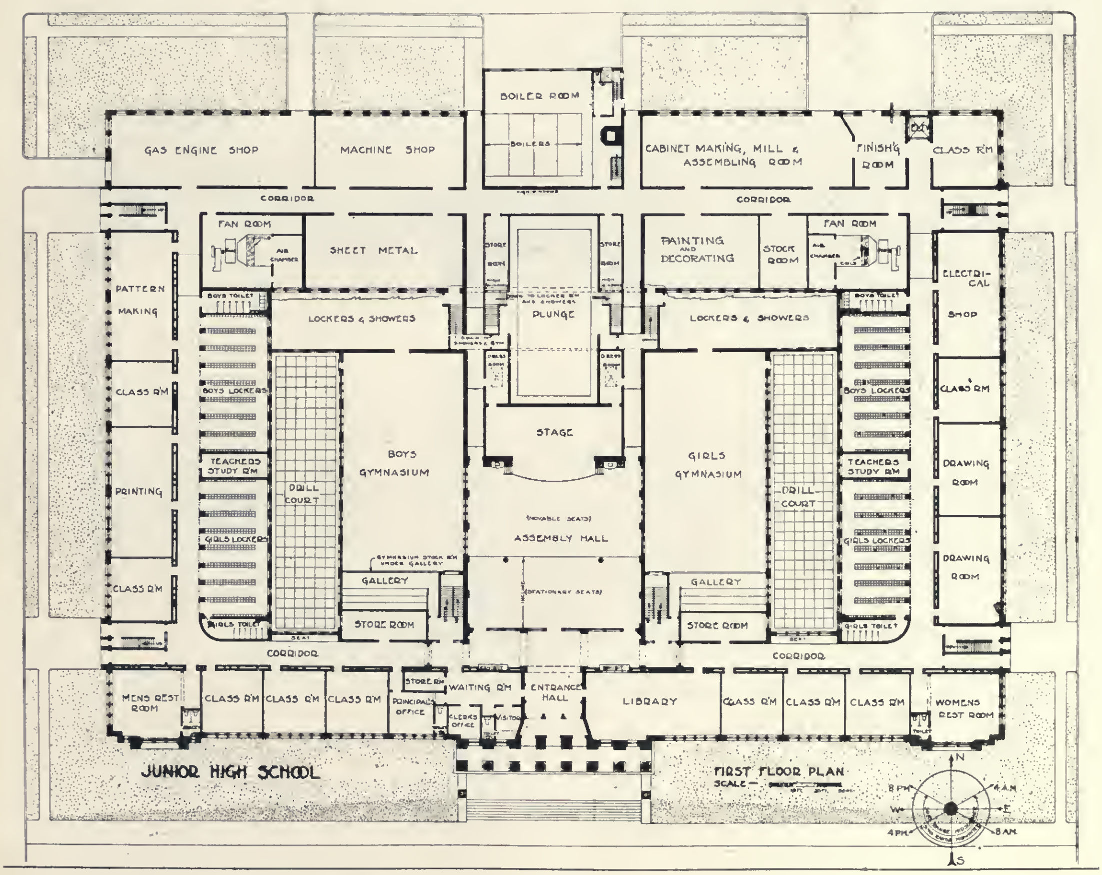
BASEMENT PLAN, HIGH SCHOOL, DEDHAM, MASS.


Gymnasium
Coal Pocket
Girls Locker Room
Boys' Locker Room
Boiler Room
Janitor
Fan R'm

FOUNDATION PLAN, HIGH SCHOOL, DEDHAM, MASS.

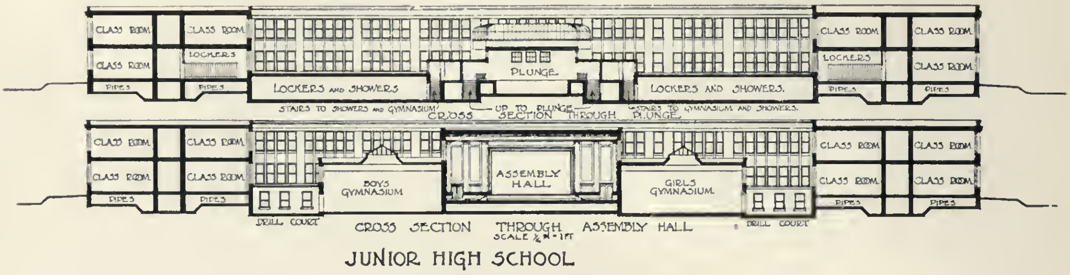

ROOM FOR BAND PRACTICE
CLASS R.M
ENTRANCE HALL
PIPES
BALCONY
ASSEMBLY HALL
STAGE
PLUNGE
SCIENCE
BOILER ROOM
COAL
LONGITUDINAL SECTION THROUGH CENTER
CLASS ROOM
CLASS ROOM
CLASS ROOM
STORE ROOM
GALLERY
GYMNASIUM STORE ROOM
PIPES
GYMNASIUM
LOCKERS AND SHOWERS
CLASS ROOM
CLASS ROOM
SHOP
SHOP
BASEMENT
BASEMENT
SECTION THROUGH GYMNASIUM
FRONT ELEVATION

ELEVATIONS AND SECTIONS, JUNIOR HIGH SCHOOL, ROCHESTER, N. Y.

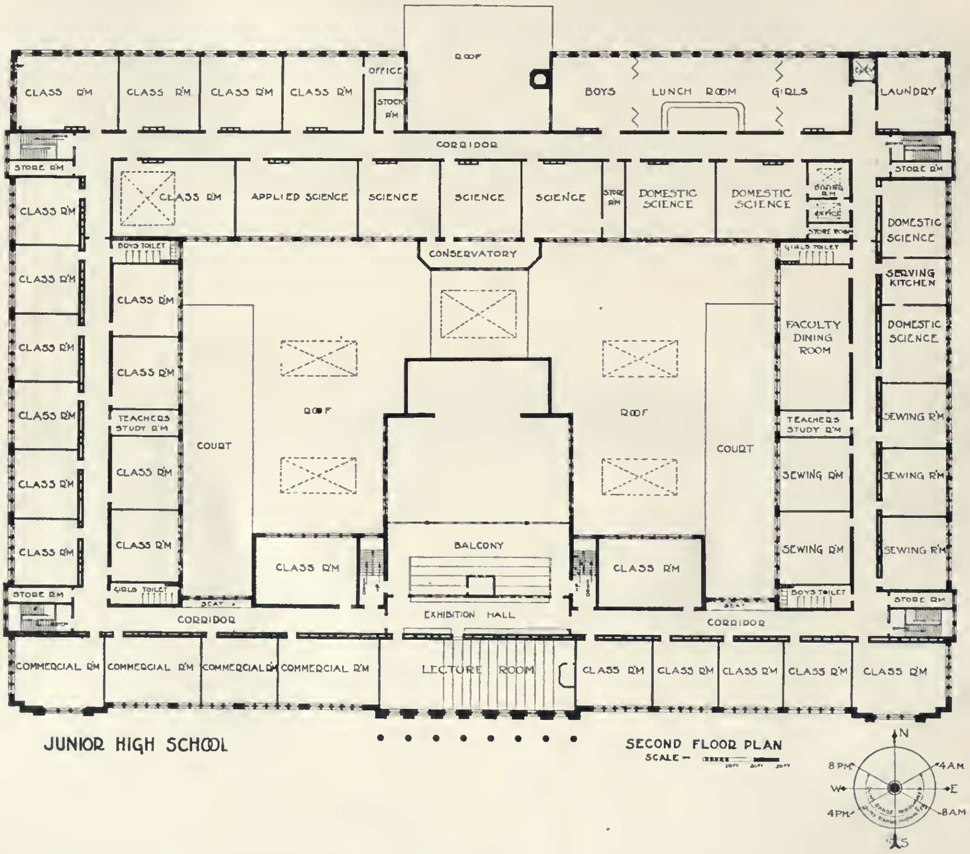

BOILER ROOM
BOILERS
GAS ENGINE SHOP
MACHINE SHOP
CABINET MAKING, MILL & ASSEMBLING ROOM
FINISH'G ROOM
CLASS R'M
CORRIDOR
CORRIDOR
FAN ROOM
AIR CHAMBER
SHEET METAL
STORE ROOM
PLUNGE
STORE ROOM
PAINTING AND DECORATING
STOCK ROOM
FAN ROOM
PATTERN MAKING
BOYS TOILET
LOCKERS & SHOWERS
LOCKERS & SHOWERS
BOYS TOILET
ELECTRICAL SHOP
CLASS R'M
BOYS LOCKERS
BOYS LOCKERS
CLASS R'M
STAGE
TEACHERS STUDY R'M
TEACHERS STUDY R'M
PRINTING
DRILL COURT
BOYS GYMNASIUM
GIRLS GYMNASIUM
DRILL COURT
DRAWING ROOM
(MOVABLE SEATS)
ASSEMBLY HALL
GIRLS LOCKERS
GIRLS LOCKERS
CLASS R'M
GALLERY
GALLERY
DRAWING ROOM
(STATIONARY SEATS)
STORE ROOM
STORE ROOM
GIRLS TOILET
GIRLS TOILET
CORRIDOR
CORRIDOR
STORE R'M
WAITING R'M
ENTRANCE HALL
MENS REST ROOM
CLASS R'M
CLASS R'M
CLASS R'M
PRINCIPAL'S OFFICE
CLERKS OFFICE
VISITOR
LIBRARY
CLASS R'M
CLASS R'M
CLASS R'M
WOMENS REST ROOM
JUNIOR HIGH SCHOOL
FIRST FLOOR PLAN
SCALE
N
8 PM
4 AM
W
E
4 PM
8 AM
S

FIRST FLOOR PLAN, JUNIOR HIGH SCHOOL, ROCHESTER, N. Y.

Gordon & Madden, Architects, Rochester.


CLASS ROOM
LOCKERS
PIPES
PLUNGE
LOCKERS AND SHOWERS
STAIRS TO SHOWERS AND GYMNASIUM
UP TO PLUNGE
CROSS SECTION THROUGH PLUNGE
ASSEMBLY HALL
BOYS GYMNASIUM
GIRLS GYMNASIUM
DRILL COURT
CROSS SECTION THROUGH ASSEMBLY HALL
SCALE ⅛" = 1 FT
JUNIOR HIGH SCHOOL

CROSS SECTIONS, JUNIOR HIGH SCHOOL, ROCHESTER, N. Y.


ROOF
CLASS R'M
OFFICE
STOCK R'M
BOYS
LUNCH ROOM
GIRLS
LAUNDRY
CORRIDOR
STORE R'M
APPLIED SCIENCE
SCIENCE
DOMESTIC SCIENCE
DINING R'M
OFFICE
BOYS TOILET
GIRLS TOILET
CONSERVATORY
SERVING KITCHEN
FACULTY DINING ROOM
TEACHERS STUDY R'M
COURT
SEWING R'M
BALCONY
EXHIBITION HALL
SEAT
COMMERCIAL R'M
LECTURE ROOM
JUNIOR HIGH SCHOOL
SECOND FLOOR PLAN
SCALE
N
E
S
W
8 PM
4 AM
4 PM
8 AM

SECOND FLOOR PLAN, JUNIOR HIGH SCHOOL, ROCHESTER, N. Y.

Gordon & Madden, Architects, Rochester.

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